PLANNING PROBLEMS
OF
TOWN, CITY AND REGION
PAPERS AND DISCUSSIONS

1930

NATIONAL CONFERENCE ON CITY PLANNING
NEW YORK

PLANNING PROBLEMS OF TOWN, CITY AND REGION

THE WHITE HOUSE
WASHINGTON

June 16, 1930.

I send cordial greetings to the delegates attending the National Conference on City Planning and my best wishes for a fruitful discussion of this very important subject. The increasing complexity of city life makes it ever more necessary that farsighted provision for future expansion shall consider measures not only to conserve economic values, but also to make wise provision for the health and recreation of the men, women and children of these great communities.

Herbert Hoover

PLANNING PROBLEMS OF TOWN, CITY AND REGION

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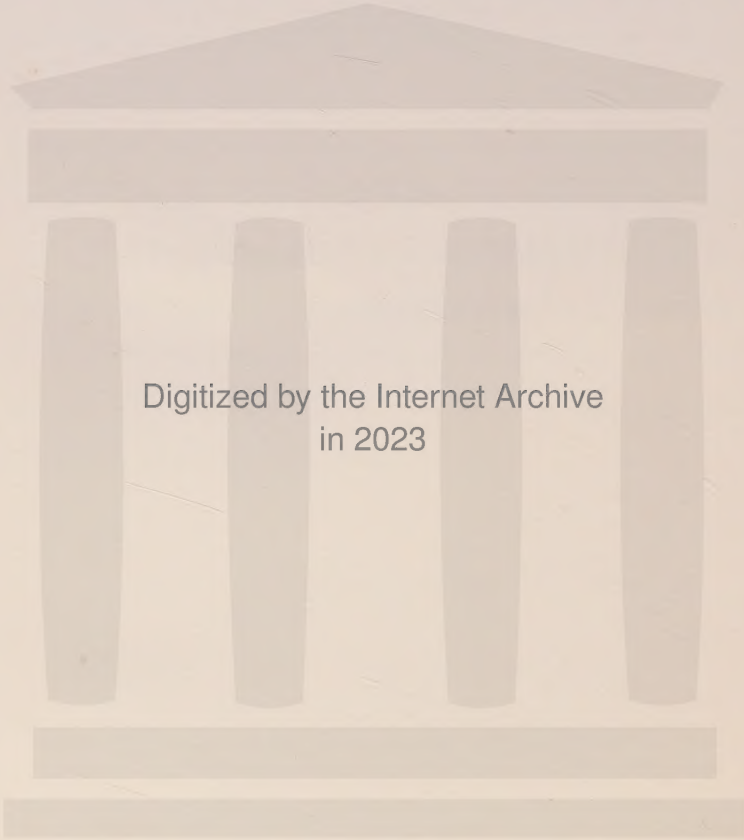
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THE CO-ORDINATION OF STREETS, PARKS, SITES FOR PUBLIC STRUCTURES, ZONING DISTRICTS AND ROUTES FOR PUBLIC UTILITIES

Edward M. Bassett, President of the Conference

Most of us despise definitions. We know what a word means and we do not like to be bothered by making or remembering a definition that will exclude everything else. For instance, it is bothersome to define the word "horse." It is not easy to define, and we are not much ahead after we define it. But, fortunately, each has a distinct conception of what a horse is. Similarly, it is bothersome to define city planning, but unlike the word "horse," not so many of us have a clear conception of what city planning is. I will enumerate items that I have heard included as parts of the science,—architecture of private homes, private golf courses, surfacing of roadways, vehicular traffic regulations, taxation, assessments for benefit, excess condemnation, building codes and tree planting. All these things interest the city planner. He must know about them,—the more the better. But if they are part of city planning, one must make a definition of city planning that will include them all. This would be tantamount to saying that city planning is everything that pertains to a city, but such a definition is meaningless.

Many newspapers in our eastern cities are sure that city planning is aimed especially at city beautification. To them window boxes for flowers and statues in the front yard are more intimately a part of city planning than streets and trolley lines. The ordinary citizen has heard about city planning and looks wise when you speak of it, but if you should ask him to give ten dollars to help along the National Conference on City Planning he would not know what it was all about. We have helped to estab-

lish the Planning Foundation of America. If the basic merits of sound city planning could be more clearly and widely understood the Foundation would make a stronger appeal and become a greater help throughout the country.

My own method is to say that my definition helps me in my city planning work, which is assisting in the drafting of forms for laws and ordinances. The title of this address is "The Coordination of Streets, Parks, Sites for Public Structures, Zoning Districts and Routes for Public Utilities." For me, that is what city planning is. That is to say, I want a concrete something that to me is city planning, and I do not find fault if others like to adopt a conception that includes everything that is of especial interest to the city planner. Of course, I admit that housing, landscaping, architectural design, taxation, assessments for benefit, traffic regulations and building codes are of the greatest interest to city planners and ought to be. Many subjects of city administration are as important as city planning. The relationship between the subjects of administration on the one hand and city planning on the other are most intimate. The good city planner must know these administrative matters as well as he knows city planning, and often these matters of administration are of such importance that they affect the form of the city plan.

All city activities require prevision, and yet no one would say that this prevision is city planning. Each of us would say that city planning is a field less than all the activities of the city. Some characteristics of this smaller field can be traced, it seems to me.

City Planning Always Pertains to Land Areas

City planning refers to the plan of the city. The city embraces so many acres of land. Some of them may be under water, but that makes no difference. This land composing the city was all of the same character, so far as city planning is concerned, before men came. After men came common paths and streets and sites for public buildings were established.

City Planning is for the Community

Men and women constitute the community. The community requires that the land be stamped or designated for various community uses. If all the land were private land the city could not function. It needs streets, parks and sites for public buildings. It stamps some land areas as streets, others as parks, others as sites for public buildings, others as zoning districts, and others as routes for public utilities.

City Planning is Always Official

That is, it is under sanction of law. There is no other way that the community can speak. Accordingly, land areas shown on the plan are always placed there for community purposes, and this means that they are stamped for one community purpose or another under sanction of law.

It follows that city planning is the official stamping or marking of land areas for community purposes. There are only a few of these stamps. The number is amazingly small. To those named in the title we should add public reservations and pierhead and bulkhead lines. Then we have named them all. We do not need to name tunnels and bridges, because if they are for pedestrians and ordinary vehicles, they are extensions of streets. If they are for public utilities, they are parts of the routes for public utilities. We do not need to name parkways, because they are parks.

The Test

If the foregoing assortment of stamps comprise city planning and all of city planning, and if they are logical, then there should be some test of what constitutes one of the elements of city planning. It seems to me that the test is whether it can be shown on a map or plan—to be more specific, on a dynamic map or plan—because we are not speaking of natural objects like hills and watercourses, but we are speaking of land areas officially stamped for community purposes. The city plan shows the boundaries of

these areas that are the elements of city planning. These boundary lines always show that the land on one side is of a different character from the land on the other side. Land within a street is different from private land or park land or a site for a public building. A zoning district is always different from the adjoining zoning district. Land affected by a route for a public utility is always different from land not so affected. Land within a pierhead line is different from land without the pierhead line. This is why city planning elements can be shown on a map or plan and always are shown on a map or plan. If a thing cannot be shown on such a map, it is not an element of city planning. This map is what I call the city plan. It does not matter whether the streets or parks have been opened, or whether the public utilities have been built. If the land areas have been stamped so that their boundaries officially appear on the map of the city, then they are part of the city plan.

At this point, some will say that such a test makes the city plan a small and unimportant affair—that the city plan is much greater and consists of many more elements, many of which they would never try to enumerate. I wish such a person might imagine a city totally destroyed by earthquake and fire. All houses, pavements, sidewalks, water mains, sewers, bridges and railroads, all gone. Would anything remain? Yes, the city plan would remain. Every street, park, site for public structure, zoning district and route of a public utility would remain just where it was before. It might be hard to find the boundary lines, but if the thing was a part of the city plan, its boundary lines would still be there. If the elements enumerated by me do not include everything that would be left after such a catastrophe, then I would like to know what it is, for I have omitted something and I would like to add it to the list.

Many who would say that my elements are much too limited unconsciously agree with my definition of what city planning is. For instance, everyone would answer no to the following questions:

Was the city plan changed

when Arnold's house burned down?

when Black sold his private golf course for a cow pasture?

when we cut down the trees along Main Street?

when we asphalted Crown Street, which had been cobbled?

when we built a new city hall of a different architectural type on the same site?

when Brown bought ten feet of his neighbor's lot so that his children would have more room to play?

when taxes went up ten points?

when the building code was amended requiring sanitary traps?

when Canal Street was made a one-way instead of a two-way street?

when the trees and shrubbery were changed in the park?

Similarly, everyone would answer the following questions yes: Was the city plan changed

when Main Street was widened five feet?

when the city accepted the gift of Black's land and laid it out for a park?

when the city bought the new five-acre plot for a high school?

when the zoning map was amended to make a new E district north of the railroad?

when the zoning ordinance was amended so as to require larger side yards in F district?

when a franchise was granted for an extension of the trolley line in King Street?

when the city built a new subway in State Street?

when the zoning ordinance was amended to limit the height of buildings in business districts to 120 feet?

If I am right in thinking that everyone would answer the questions in the first group no and in the second group yes, it would

show that in a general way everyone has my definition of city planning in the back of his head. The trouble often is that he will not be consistent. While he will admit that rebuilding his own home in the Spanish type instead of colonial is not a change in the city plan, he will insist that the subject of housing for people of small means is a part of city planning. He will admit that the adoption of excess condemnation by the city does not change the city plan, but he will still say that excess condemnation is part of city planning. He and I would probably be in full agreement if each enumerated the subjects that ought to interest a city planner. The difference would be that he would call city planning everything that interested the city planner while I would confine city planning to the elements that can be shown on the city map or plan. I would go further and say that all of his subjects are ancillary to the city plan and that some of these ancillary subjects are fully as important as the elements of the city plan.

Vague thinking on the subject of city planning has resulted in incomprehensible and unworkable laws in many of our states. Matters that relate wholly to architecture are solemnly interwoven with strictly city planning legislation. The courts have to sort them out and usually throw them out. The bill drafter who cannot perceive that the placing of a street on the city map is a fundamentally different thing from the acquirement of the street by the city, is helping to produce a legislative puzzle. If he had a clear conception that the former was city planning and the latter was city administration, he would not make this mistake. If a law for regulating city planning calls the construction of the roadway the initiation of the city planning act which requires the approval of a planning board, trouble is sure to follow. The council may place the street on the map, acquire it and not ask the advice of the planning board until a contract is about to be let for constructing the roadway and sidewalks. Of course, it is then too late for the advice of the planning board to amount to anything. The time when its advice should have been asked was at the initiation of the city planning feature, *i. e.*, placing the proposed street on the city map.

We are approaching an era where the dignity and importance of planning boards will be increased by a statutory requirement that more than a majority vote of the council will be necessary to decide a city planning matter differently from the advice of the planning board. It will probably be conceded that reports on what I call city planning elements will require more than a majority vote. But how about the multitudinous ancillary matters on which the planning board and council might disagree? Surely the planning board should be free to advise on these ancillary matters. Indeed, its advice will be often asked. But where is the dividing line between what is basically city planning and which will require more than a majority vote, and what is ancillary and merely a matter of advice? Following are examples of ancillary matters not requiring more than a majority vote—building code, time of acquirement of land for streets or parks, kind of pavement, design of a bridge or other public structure, area of assessment for benefit, method of planting in a park, and street traffic regulations.

The special function of the planning board will be co-ordination. We see more clearly today than we did twenty years ago that the city planner is a co-ordinator. One who knows streets and nothing else or one who knows parks and nothing else cannot today claim to be a city planner. It is usually the trained engineer or architect or landscape architect who is the best co-ordinator. But anyone who becomes excellent in co-ordinating the basic elements of the city plan is a good city planner, whether he is a professional man or not.

And how about design? My views on city planning have been repeatedly criticized because I do not keep saying design, design, design. I stand for design as much as anyone. Design must be added to co-ordination. But in this effort to make a true analysis we are not compelled to discuss what constitutes good design or good co-ordination. That is another chapter. Lack of design and co-ordination makes bad city planning. This talk is about what city planning is. To tell all about what good city planning is would take a much more competent person than myself.

SUBDIVISION REGULATION IN UNINCORPORATED AREAS

Jacob L. Crane, Jr., Town Planner, Chicago

If the planners are up to the job I believe we can soon formulate a pretty definite image of what the *fully developed* machine-age American city and town are going to be. It is becoming possible to appraise for planning purposes the effect of changing social habits, such as apartment-house living and the partial disintegration of the family unit; to determine the plan requirements for land-, water-, and air-traffic; to foresee the prospective use of new types of ground planning and civic design, from Radburn to LeCorbusier; to estimate the limit of practicable rebuilding and rehabilitation. We can, within a moderate degree of error, calculate the size, in population and in land area, which our cities will reach at the point of comparative stability, where growth will have almost ceased. The national population seems fairly certain to reach a balance at from 175 to 200 million, and the growth of industry, transport, commerce, and business is limited in prospect accordingly. The movement from country to city is likely to stop when the urban population has reached from 70 to 85 per cent of the country's total. It seems altogether possible although difficult to estimate the movement of industry and people from one section of the country to another* and from the big centers to smaller ones and to outer regional areas and suburbs. By an assembly of these calculations it seems to me feasible, then, to forecast population figures and occupied land areas for each city planning unit. The City, American Style, quite unlike any other city in history, is taking form, and we can begin to foresee and plan

* For example, the stimulation of industry in the Central West which will result from new waterways and readjustments in freight rates.

for that definitive future city in main outline now and increasingly in detail as time goes on.

This consideration of the ultimate size and character of our cities has a fundamental bearing on all city plan thinking and a direct bearing upon the theories and processes of controlling land subdivision outside corporate limits. The amount of land needed, the required type of control, and the details of land planning will all be influenced by the picture of the typical city and of each particular city as fully developed. What follows here, then, is subject to revision as that picture is more and more clearly defined during the next very few years.

However, in the meanwhile we can be fairly sure of certain principles in solving the several immediate problems of outside platting control, which now constitutes a main phase of city planning action and a most valuable one. The whole subject has been discussed so thoroughly * during the last three or four years that I shall only summarize the present situation, restate what seems to me sound theory, and suggest points for fruitful action toward improving our practice.

Early American planning concerned itself more with construction and reconstruction projects in built-up areas and less with specific methods for guiding new development. During recent years, through the establishment of comprehensive plans and, finally, subdivision regulation, a technique of guiding outer new development, has been growing up. Naturally the unused prospective urban land areas lie, in many cases, largely outside municipal corporate limits; and often they are greater than the total area within the built-up parts of a city,—that is, the regions for the big cities, and the areas calling for extra-territorial platting control in the smaller ones, are usually more extensive than all the land previously subdivided and utilized. Plainly, the great

* Our Cities Today and Tomorrow, Hubbard and Hubbard, Harvard University Press.
Vol. VII, Regional Plan of New York and Environs.
Report American City Planning Institute, City Plan Magazine, July, 1928.
Alfred Bettman, Proc. N. C. C. P., 1929.
John R. Prince, Proc. N. C. C. P., 1924.

advantage of the guidance of land platting before it is used lies in the fact that results approximating sound planning can be achieved at virtually no cost, since this method avoids the tremendous burden of subsequently rebuilding badly planned built-up districts. So every contemporary city plan wisely gives a large proportion of its attention to the establishment of plans, and of methods for securing conformity to the plans, in the undeveloped territory. Probably a grand total of four or five hundred towns and cities in the country are now utilizing some form of subdivision regulation in unincorporated areas.*

It should be noted that in contrast to the control of development through public ownership of the land, which some European countries have actually practiced or at least approached, and also in contrast to the earlier American method of merely suggestive guidance, our contemporary city planning undertakes to achieve the desired results through legally binding regulative methods, under the authority of specific statutes and through the agency of officially established basic plans directed by planning commissions. This type of procedure, regulation limiting private rights, is altogether in line with American legal and social traditions. The same primary theory has been applied in the regulation of public utilities, the real estate business, and many other activities where the public at large has a definite interest in the results. Considered as a process developed under popular rather than autocratic government, the regulation of land subdivision, particularly outside of municipal limits, is a significant enterprise,—a courageous attempt to apply human reason for the control of human destiny. It represents one means by which the city is exerting its power to mold the countryside to its urban purposes; it is done by the municipality, or by township or county at the city's instigation largely for the sake of the city's future; the regulations are established in the light of prospective city conditions and city needs,

* This discussion does not apply directly to those states such as New York and New Jersey where all of the state area is "incorporated" as city, village, or township, and hence under municipal control as distinguished from extra-municipal regulation.

and while comprehensive plans incorporate other elements such as park belts in a measure to divorce outer areas from the city proper, the regulations deal most extensively with street plans to definitely tie these areas up with city development and in a sense to prepare the outer land for its eventual wedding to the city itself. It is an expression of the individual citizen's desire for more orderly growth working around through public agencies back to the control of private operations. And finally it has a great significance in its practical effect upon land platting, upon the character of the future city, and as an extremely important element in every modern city planning project.

Purposes and Methods of Outside Subdivision Regulation

Perhaps the first basic objective of outside land platting control, as with the other phases of city planning, should be to establish the appropriate uses of the land itself when it comes in for actual development. Here the comprehensive city and district plans are essential to the allocation of land areas for different purposes; but legal control over the use of the land is dependent upon the establishment of county or township zoning or upon private restrictions. Several states now have county zoning and at least three (New York, New Jersey, and Michigan) permit township zoning. However, the utilization of these laws has not as yet been very extensive, so that generally the control over land uses in outside territory rests for the time being with chance, or with persuasion on the part of the planning authorities, or on the deed restrictions imposed by the subdivider with or without the suggestion and guidance of the planning agency. It may fairly be said that control over the use of unincorporated land areas is still in a chaotic state, since it is applied consistently and successfully in only a few instances.

The street system, forming the structural skeleton in the planning of outside districts, has come in for the most definite control yet attempted through subdivision regulation. All our extra-territorial subdivision control rules deal primarily with good streets,

establishing in at least a general way the location, width, and treatment of the major streets and highways. In some instances the precise design of the secondary and minor street systems has been attempted through an official plan and subdivision control, but, with changing conditions, changing real estate markets, changing subdivision styles, and particularly changing ownerships and sizes of land tracts, this more detailed specific control has not been found generally feasible, except through rules setting up minimum requirements and through suggestive rather than legally binding plans and sketches. It is considered that the best practice is to establish the major street system in the plans and to make these plans effective through subdivision regulations, and then, both at the time plans are prepared and as subdivision plats are made, to suggest details of platting arrangements and more modern and improved styles of subdivision design suitable to the particular character of the land in question.

The street system, of course, defines the blocks and hence has a primary effect upon the size and arrangement of lots. The control of actual lot design relates back to methods for establishing the use of the land through county or township zoning, or in most cases through the allocation of land areas in the plan and the guidance of lot layout when the subdivision plans are made. Certainly land subdivision control is far from complete until lot size and arrangement can be secured in conformity with the plans for the particular area, and again, as with controlling the actual use of the land, our purposes are well defined but our methods are deficient.

In the matter of securing parks, playgrounds, and school sites in new land subdivisions, there has been during recent years a fairly wide variety of methods: by suggestion only, by requiring dedication of a certain percentage of the subdivision area, by requiring or persuading the reservation of the sites, by purchase by the proper public authority out of its ordinary or special funds, or by purchase and assessment against a local benefited district. With so wide a variation in methods we have not yet established

in law or in practice sound principles applicable to all usual situations, and the methods generally utilized are inadequate and inconclusive.

Business districts, industrial areas, and special residential development all require more detailed planning and more specific control or guidance than is generally possible under present legal authority and planning procedures.

I have dealt here with only the basic and elementary purposes of outside subdivision regulation and with the methods commonly in use to accomplish those purposes. But there are many refinements of the whole process to be considered after we have cleared up the primary difficulties. All told, city planning theory and the technique of preparing city plans are in most states now far ahead of our legal and practical methods for the control of outlying subdivisions under a planning program.

The Legal Status of Outside Subdivision Regulation

Many states have passed statutes authorizing extra-territorial subdivision control, but there is as yet comparatively little law established in the courts on the application of these statutes. The United States Department of Commerce Standard City Planning Enabling Act, which has been utilized as the basis for the city plan laws in a number of states, is probably the best that has been devised for outside subdivision control as well as for other phases of city planning activity. Approximately twenty-five of the states have granted to cities and villages, or to counties, or in a few cases to townships, the power of regulating subdivisions outside municipal corporate limits. In several of these states such power is given to both the city and the county, but for the former the area of control is limited. All of these laws apply to platted subdivisions, but they do not contain provisions requiring that all subdivisions be platted,* and there seems to be some confusion as to whether the general statutes prohibit metes-and-bounds subdivisions by

* New Jersey and California now impose hardships upon metes-and-bounds subdividing.

requiring the preparation and recordation of a subdivision plat. Rush and Holbrook* declare that in twenty-four states, all told, metes-and-bounds subdivisions are illegal. However, in actual practice in a number of these states I have found that unrecorded subdividing goes on in spite of the direct or implied legal prohibition. In Illinois, one of the states cited by Rush and Holbrook, an opinion of the State Attorney General indicated that there is no legal authority for prohibiting the sale of lots from metes-and-bounds subdivisions.

With recorded plats I have been able to find only one reported court opinion passing on the question of the validity of municipal extra-territorial subdivision control. In that one case† the Ohio Supreme Court ruled that the statute requiring plats of land within three miles of a city's corporate limits to meet approval of the planning commission before the plat is entitled to record, is constitutional. This is probably a key case, since the opinion was rendered by a court of high authority. However, until decisions are rendered in other states there must be some uncertainty about the legal status of the whole process of outside platting regulation by cities or counties. And it is to be expected that as cases get into court they will be complicated by the vague terminology of some of the platting laws, by the fact that these laws are unrelated to other city planning statutes in the same states, by the discovery that the power granted is too limited to accomplish the purposes desired, and probably by inconsistencies, off-hand judgment, and favoritism in applying the subdivision rules.

Operation Difficulties

While the values of outside subdivision regulation are obvious and very great, many difficulties arise in applying even the most

* Subdivision Control Methods, A Nation-Wide Survey, National Real Estate Journal, July 23, 1928.

† Prudential Co-operative Realty Company, Inc., vs. City of Youngstown.

A Michigan case, Ridgefield Land Company vs. City of Detroit, was at first reported to have dealt with the power of outside regulation, but in fact the subdivision lay within the Detroit corporate limits.

general control. First of all, in spite of careful surveys and planning it is quite impossible to foresee all changing conditions, so that in some cases we are bound to discover in a few years that the rules as imposed on the subdivider were partially or entirely wrong. The significance of this comment is only that subdivision control should be based on the most careful forethought and on comprehensive plans, backed up by studies as complete as possible.

The areas of control defined in the statutes thus far passed are frequently found too big or too small. For a big city, without county control, an outside area of only one to five miles may be entirely inadequate; and conversely, for the smaller town an outside district of even three miles may be altogether too much.

Much more land has been subdivided than can be absorbed for building purposes for a great many years. In the Chicago Region enough lots have been platted to accommodate a population of ten million people, which in the author's opinion is as much or more than this district will have in the year 2000. Furthermore, a distinction should be made between subdivisions sold in the raw state and those furnishing improvements ready to use. Nevertheless, the platting of subdivisions far in advance of even the possibility of determining the logical future use of land areas and the resultant premature establishment of defective land plans is a great and deplorable folly.

The matter of controlling the use of lots has been touched upon above. Without county or township zoning some land is almost certain to be put to the wrong use even before platting takes place, thus interfering with orderly planned development; and after platting the same thing happens unless controlled by county zoning or by private restrictions. Essentially industrial property laid out and used for residential purposes may effectively prevent logical industrial growth. The converse is just as common. Perhaps the most serious difficulty in this category arises where lots are sold by metes and bounds for business purposes in the wrong place, or, as frequently happens, platted in altogether excessive amounts.

Aside from its legal aspects, metes-and-bounds subdividing

constitutes one of the gravest weaknesses in the whole process of practical subdivision control. When used to evade subdivision regulations (or even the possibility of its use in that way) metes-and-bounds subdividing is very discouraging to the officials on whose shoulders the regulation of platting rests. I have seen a number of plan commissions on the point of abandoning subdivision control because of its apparent uselessness in the event of circumvention through metes-and-bounds selling. Further, due to the elaborate descriptions necessary in deeds and the great danger of error in copying these descriptions, no purchaser of a metes-and-bounds lot can be sure of his title, and the labor for the lawyers, abstractors, and recorders is vastly increased over that necessary for platted lots. Finally metes-and-bounds subdivisions are often, if not usually, laid out in a very haphazard manner with fantastic sizes and little or no relation to prospective use or to the development of neighboring property.

Another serious difficulty lies in the not uncommon situation where even one small parcel of ground is sold previous to platting and a building is erected at a point where it obstructs the later dedication of a planned street when the land is subdivided. On this point, as with nearly every phase of the problem, platting control dovetails with the other elements of city planning.

The work of plan commissions in regulating subdivision is sometimes hampered by the quality of the plans they have to work with; the maps may be at too small a scale, or too sketchy and indefinite, or not sound in the first place and hence subject to too frequent and ill-advised revision. This leads to trouble with political manipulation of the regulation procedure, a difficulty which arises too frequently anyway, and which prejudices the whole operation. And even with good plans and good political support many regulating commissions fail by not applying the rules consistently and fairly. It is sometimes so much easier to make concessions than to stand by the guns. Here lies one of the many reasons why the city planning consultant or a permanent city, county or regional adviser should be available for technical help and continuity of policy after the plans themselves are submitted.

Inconsistency arises sometimes out of the present customary round-about methods for the transmission and approval of subdivision plats. The subdivider engages a surveyor, who makes a preliminary sketch and submits it to the plan commission, which after a month's delay suggests changes; whereupon the plat goes back to the surveyor and owner for discussion and revision, and back to the commission and back to the owner. This may go on for several months. After approval of the tentative plan, it still has to come back as a record plat for approval by the plan commission and then, after more delay, by the city council. After so many discussions and so much time, all concerned get sick of the thing and violations or variations are allowed only to get rid of it. A remedy for this inefficiency is suggested below.

Finally, difficulty is constantly arising through the fact that platting regulations are not always sensible, as for example the flat limitation of block lengths to 600 or 800 feet. Often much longer blocks would constitute more economical, better planning, especially where side streets are opening into major highways. The attempt, sometimes made, to require a uniform block and lot size throughout large areas of quite various character is a great mistake, as also the prohibition of cul-de-sac or dead-end streets, which are actually coming into style now, and which have great value in many situations. Likewise the requirement for streets on section and quarter section lines, regardless of topography or other factors, is absurd except as a temporary emergency measure. Conversely, rules too vague and unspecific lead not infrequently to trouble in interpretation and application of the regulations.

Some Recommendations

1. Study, re-study and improve subdivision regulations recognizing the need for variety in block lengths, for quite revolutionary types of land subdivision, as in Radburn, N. J., for extra widths of road where railroad or highway grade separations may become necessary, for more detailed intersection design.

2. Although much good has come out of the application of

subdivision rules without a comprehensive plan, it is most desirable to apply such rules only when they can be correlated with city or regional plans.

3. Subdivision regulation in unincorporated areas needs a great extension of legal authority to county, township and city. Every state should have its planning bureau, with item 1 of its program that of establishing the governmental areas which shall control subdivision regulation, *i.e.*, regions, sub-regions, and local districts.

4. The amount of land to be subdivided should be limited in accordance with the prospective need. Several authorities now require the installation of street improvements either completely or partially, and this helps to eliminate the purely speculative subdivider. However, where such a subdivision is annexable to a city during or immediately after the sale of lots and the improvement costs are assumed by the lot purchaser as a special assessment, an intolerable burden may be placed on the buyer-for-profit and on the municipality, and this is not uncommon. In theory it is questionable whether *excessive* platting should be permitted even if the subdivider puts in some street improvements, and, in the Chicago district at least, there are some tracts of this kind. Refusal by the municipality to extend utilities or to issue building permits, while somewhat effective within city limits, cannot be applied beyond the corporate jurisdiction. All told, I believe it is essential and feasible to limit the amount of land put on the market through legal control by the planning authority, with the courts as a check upon the reasonable application of such power. Consideration should be given to the scheme suggested by Mr. Coleman Woodbury* for the classification of subdivision property in accordance with its character and available services, to give purchasers a more definite idea of what they are getting.

5. Metes-and-bounds subdividing must be legally controlled and the control made effective. In my opinion the control might

* Journal of Public Utility and Land Economics, August, 1929. See also Mr. Tilton's paper on the Santa Barbara arrangement.

well be in the form of a prohibition except with the consent of the authority regulating land subdivisions.

6. To obviate the present inconvenience and delay, and as a means of securing better results, it is suggested that the *public agency* endowed with subdivision control should preferably *design all land subdivisions*.

7. Pending county or township zoning or extra-territorial municipal zoning, and wherever such zoning is found impracticable, the power to require the imposition of restrictions by the subdivider is essential to controlling the use of land. Temporarily this may be done and is being done without specific legal authority.*

8. Each state must sooner or later describe by statute specific machinery for acquiring or reserving public land other than for street purposes, that is, parks, playgrounds, school sites, etc., when subdivision plats are laid out. The author's practice now is to require in the subdivision regulations that public lands called for under the comprehensive plan must be either dedicated by the subdivider or reserved by him for a period of one year after notice is given to the appropriate public authority, to give that authority an opportunity to buy or contract for or condemn the ground. This seems to operate fairly well, giving the city or park board or school board a chance to reach a decision and act accordingly, and assuring the subdivider that he will not be permanently withheld from using the land. However this is considered to be only a temporary device pending the establishment of more specific legal machinery defining the steps to be taken by the parties at interest in a problem of acquiring the needed property.

This whole outline seems to be rather discouraging, in that so much is suggested for accomplishment before even the fundamentals of subdivision regulation can be successfully applied, and particularly when it is realized that this is only one of several urgent phases of city planning work in which the laws and the whole process need thought and labor and action. On the other

* It is suggested that such restrictions should be made terminable and also, at the option of the lot owners, changeable at the expiration of a defined period or upon the advent of official zoning.

hand, the very great values of subdivision regulation even as now practiced must be emphasized. In the main the thing is working in spite of its limitations and defects, and it is accomplishing amazing results.* Further, it is doing more to establish the ad-advantages of city planning in the public mind than perhaps any other element of our work. Every planner and every member of a plan commission could cite, along with the difficulties which they are having, the basic and very great advantages of outside subdivision regulation as part of a city planning program.

* In only three counties of the Chicago region, for example, some 666 miles of extra-width streets and highways have been dedicated during the last five years of subdivision regulation; 18 miles 200 feet wide, 537 miles 100 feet wide, and 111 miles 80 feet wide.

THE DIRECTION OF LAND SUBDIVISION OPERATIONS—A COUNTY RESPONSIBILITY

L. Deming Tilton, Director of Planning, Santa Barbara County

The determination of the original pattern of streets and lots and public areas *is* city planning, and there is no more important work for a plan commission than the direction of land subdivision operations.

The planning authorities of the country have not until recently attached a proper value to this phase of their problem. The provocative community planning studies of Henry Wright, which began to appear after the war, brought this issue into sharper focus. The statement of subdivision principles agreed upon by a joint committee of realtors and planners appeared in 1927 and was followed shortly thereafter by a report representing the views of the Planning Institute. Since then there have been more extensive studies by Messrs. Wright, Whitten and others, and lately that excellent Volume VII of the New York Regional Survey. There is scarcely a word that might be said about the planning of land for its highest and best use under modern conditions that has not been well said there. It fills a great void in the working files of the planning specialist and should add much needed balance to the library of the realtor and professional subdivider.

Planning vs. Replanning

The planning problems of any city may be readily classified with respect to three types of districts encountered in the preparation of a city plan.

First, those problems which originate in the old, faulty, intensively used central urban area. A ring may be drawn around such a district and it might be called the "What's the Use" District to indicate the degree of hopelessness which the astute planner must recognize in many of the plans drawn for it.

Second, what might be called the "Twilight Zone" in every city offers greater opportunities for *corrective* planning. Undeveloped areas still exist. Growth is taking place. Streets may yet be widened if necessary, park areas secured and zoning has a fair chance of producing more order by future growth.

Third, beyond the "Twilight Zone" is a vast domain in which practically all the accepted principles of modern community planning may be applied. Here the planner can find genuine happiness in creative work. Here, by a proper use of his talents, he can show what every community of this rich, resourceful nation might be.

Controlling New Growth

If one were to ask how all this new growth might have the fullest application of the newest and best planning theories and practices, the reply would undoubtedly consider two courses of action.

First, all land for some distance beyond the city limits might be acquired by the municipality outright, following the practice of German cities, the land to be laid out in streets and blocks as needed and resold. This procedure offers opportunity for perfect planning, but the difficulties of inaugurating such a system of municipal land-buying and selling in this country are insuperable.

Second, without actually acquiring title to the land, planning it and reselling it, as in Europe, a proprietary interest can be taken in it sufficient for street planning purposes. Recent legislation in New York, California and New Jersey authorizing the adoption and enforcement of a master plan of thoroughfares and local streets embodies this theory. In New York the police power is used to give validity to the official street plan; in California the enforcement of the plan is made possible by a cumbersome eminent domain procedure.

In order to make planning powers complete with respect to undeveloped areas, the legal authority to adopt an official street plan and compel its observance should be supplemented by authority to (1) establish block patterns and lot sizes (2) regulate the quantity of land subdivided annually. (3) impose and enforce

proper restrictions upon subdivided land and (4) restrict and control metes and bounds selling.

New Authority Brings New Responsibilities

Mere possession of legal authority to adopt and enforce a plan is not enough. Having secured the power to impress a plan upon the land it is more than ever necessary to know how to prepare a plan that will stand the test of time.

The theory that adequate planning is being done by checking plats against a set of rules and rejecting those that do not conform is fundamentally unsound. The planning agency of city or county to do a good job must now be qualified to prepare land use designs of all types, experiment with new community patterns and must have qualities which will enable it to lead rather than force subdividers to an acceptance of the basic lines of the master plan. It is doubtful if planning of the quality required by the more recent planning acts can be secured by the employment of cheap hack draftsmen or by the purchase of a master plan report prepared in some distant office. The new responsibilities imposed by the new laws demand more constant personal planning service and much better training and ability among planning executives.

The Value of a County Planning Agency

It is the purpose of this paper to point out opportunities for the improvement of planning technique and the development of more effective control over new community growth through creation of a county planning agency. It is in the rural districts, often at some distance from existing urban centers, that considerable subdivision activity is now taking place without direction or regulation. The demand for country lots is increasing. Motor traffic, paved highways, good rural schools, widely distributed utilities and other facilities of modern life have made these remote land-selling enterprises possible. Many do not come within the three-mile jurisdiction of any city planning commission or of any regional planning agency having authority to deal with them. They appear in their

early stages to be harmless, inoffensive creations, but any one of them may prove to be the nucleus of a small city or at least a community having certain characteristics determined largely by the pattern originally applied to the land.

Assuming that they have social importance, how are the skeletonized forms of urban growth in unincorporated territory to be kept under observation and control? Where should the responsibility lie? In California, where the entire countryside offers opportunities for settlements limited only by the adequacy of water supply, the responsibility has been placed by the state upon counties. The 1929 legislature passed a new Planning Act making the appointment of county planning commissions mandatory, and to date thirteen of the fifty-two counties have undertaken this new task of government.

The establishment of a county planning agency offers opportunity for a little different and perhaps higher type of service in the direction of subdivision operations than has been possible under conventional forms of city planning organization. In the first place, the planning aims of the county spring primarily from a desire to prevent mistakes of all kinds in county development. Many of the structural faults and deficiencies in layouts found in nearly every city had their origin in subdivisions platted beyond the limits of the city. Badly designed subdivisions are still being accepted by cities notwithstanding the extension of subdivision control over a three or five mile zone of unincorporated territory. They are accepted for numerous reasons, among which may be mentioned:

1. The lack of any planning agency to give direction to subdivision operations.
2. A careless attitude of members of the planning commission regarding remote subdivisions—they think such tracts beyond jurisdiction, regardless of law; the city will never grow out there; who cares, etc.
3. The type of subdivider operating beyond corporate limits. He is often an amateurist, hard to deal with, resentful of control of city, etc.

4. The inability of city planning commission, once the city plan is printed and the consultant discharged, to offer subdividers competent planning service or constructive criticism of the subdivision plan.
5. Inadequate topographic surveys and maps.
6. No clear understanding of ultimate urban needs in districts remote from present city.

It is not to be assumed that the creation of a county planning agency will immediately clear up all the difficulties implied in the statement above. In a county that has several incorporated cities, some without planning commissions and others with commissions operating in a perfunctory manner, the existence of a county planning agency may merely open the way for sounder planning in every district where growth and development are taking place.

County Planning Aid to Subdividers

Disregarding largely the benefits and advantages which will flow from a county-wide study of highways, parks, drainage, land types and uses, and other correlated features of a well-balanced county plan, it is possible to indicate the value of a county planning department in dealing with the subdivision of land.

First, the approval of plats can be centered in the court house where land owners must come to file papers. This is a convenience.

Second, practices in the subdivision of land can be given a degree of uniformity. This will still allow the preservation of local characteristics, but will eliminate much confusion and disagreement.

Third, highway and park plans of incorporated cities can be extended and co-ordinated more effectively.

Fourth, the county can maintain a competent staff, which is now impossible except in large cities, and can offer a real service to the subdivider. Small cities can use and pay for this service under a cooperative agreement.

Fifth, the full-time service of an experienced planning specialist can be secured for the entire county.

In order to give proper attention to the subdivision plats which pass before it annually a city planning commission needs either a competent staff or a readily available consultant. Few commissions can have either, so if they manage to exist at all they fall into the habit of giving perfunctory approval to practically all plats submitted. The presence in the county of a trained planning official, available upon call to any city in the county, would vitalize the work of existing city planning commissions and stimulate the creation of new commissions.

Sixth, the county can offer to subdividers a real service in the preparation of preliminary subdivision plats. At present subdividers have little respect for the judgment of the laymen on the planning commission, or the skill of its often inexperienced engineer.

Experiences in Santa Barbara County

In order to indicate in a measure the value of such a county planning department, especially with reference to the direction of land subdivision operations, certain policies of the Santa Barbara County Planning Commission may be reviewed briefly.

The 1929 California Planning Act authorizes the Planning Commission to prepare and the legislative body to adopt an official master plan of the county, including highways, recreation areas, zoning and other related matters.

The Map Filing Act of California, passed in 1929, defines a subdivision as a tract containing five or more lots of one (1) acre or less in area and requires that every subdivider submit a preliminary map of his tract to the Planning Commission prior to the recordation of such map. If the subdivider intends to sell by metes and bounds or is unable to secure an approval of his preliminary map he must wait thirty days after the first submission of his tentative map before undertaking any such sales. This 1929 Map Filing Act is an improvement over previous statutes governing the preparation and filing of subdivision maps, but it still has certain deficiencies, some of which will be considered briefly later.

The Santa Barbara County Planning Commission operates on an annual net budget of about $11,500, to which are added contributions from private sources amounting to $3,600 per year.

The Director of Planning in Santa Barbara County has responsible charge of all planning activities in the unincorporated territory of the county, comprising some 2,400 square miles, 1,200 of which are included within the National Forest and consequently subject to no intensive urban development.

By agreement with the Board of Supervisors and those making contributions to the support of the Planning Commission, and with the consent of the Director of Planning, his services have been made available to all incorporated cities in the county which maintain active planning commissions. There are three incorporated cities in the county, but at the time the County Planning Commission was organized none had a planning commission. Now all have commissions. Progressive citizens of these places are interested in planning, want a planning commission on the job all the time and are willing to accept membership on such a commission provided they can have the services of a consultant, but none of the cities is large enough or has planning problems of sufficient seriousness to warrant either the continuous maintenance of a planning staff or a consultant.

Coordination Through County Planning

The coordination of all planning activities in Santa Barbara County through the Director of Planning has already had a beneficial effect upon the subdivision of land. Subdividers who contemplate the subdivision of a new parcel, regardless of whether located within or outside incorporated cities, bring their platting problems first to the County Planning Department. The County Planning Department is equipped to make preliminary sketch plans for subdividers and has encouraged subdividers in all parts of the county to make use of this service. If a county planning commission can do nothing else but give conscientious aid and guidance to new land development projects it will justify its existence.

When the Santa Barbara County Planning Commission was first organized and a program of work outlined, the extraordinary importance of controlling new urban growth was recognized by the immediate adoption of subdivision rules. Work on the master plan is always suspended in order to give prompt assistance to any subdivider desiring help. Because of this policy the most cordial relationships exist between realtors and all the planning agencies of the county.

It is the desire of the County Planning Commission to see every preliminary plat which is submitted become a recorded plat. A plat will not be disapproved until all the resources of the Planning Department and the arts of diplomacy are exhausted. This does not mean that the planning standards and the principles of subdivision design will be compromised. Plats unfit for development will be refused record. One of the most valuable services of the Planning Commission is to protect the lot buying public by refusing to place the stamp of approval or give the slightest sanction of the County to a land selling scheme that is unworthy.

Grading Plats

The Santa Barbara Commission not only checks and approves plats, but submits to the Board of Supervisors of the County with each plat a report analyzing the qualities of the subdivision, and giving it a rating in accordance with the following system:

Class A plats are those which reflect an honest desire to give lot purchasers most for their money. Such plats will be distinctly superior in every item by which such work may be judged.

Class B plats are those somewhat deficient in certain particulars, but not sufficiently off color to be disapproved.

Class C plats are those which barely meet the minimum requirements.

Class D plats are those disapproved by the Planning Commission. The reasons for disapproval and the steps by which the subdivider can bring the plat into shape are plainly indicated.

The planning agencies of Santa Barbara County do not feel

that the mere adoption of the subdivision regulations and the grading system have solved the problem of giving proper direction to land subdivision operation. We are aware of the excessive supply of lots now on hand and feel that the planning agencies of the County should have some more effective way of regulating the quantity of lots as well as their quality. But we do not believe that this can be done by any legal restriction. It may be done by classifying the unsubdivided land on an economic basis, with reference to surface geology, topography, relationship to existing urban development, and other factors. This would lead to a determination of the suitability of lands for various types of use.

A complete analysis is being made of all subdivisions previously platted and sold, and the various grades will be illustrated by examples familiar to local subdividers. It is expected that the reports on these matters will serve a very useful purpose in educating realtors, public officials and more especially the lot-buying public regarding the factors which create value in subdivided land.

The realty profession is beginning to recognize the sickness of the lot-producing industry. In many cities throughout the country all subdividing activities and sales could be suspended for at least five years with little damage done to anyone except the subdividers themselves.*

From this classification will come regulation and control having a scientific basis. One of the most distressing characteristics of land subdivision operations in Santa Barbara County in the past has been the tendency to cut high, sightly hilltops into units 50 and 60 feet wide and 100 feet deep. Lot purchasers in tracts of this character are intrigued by the beautiful views when the property is first inspected with no houses upon it, but when houses begin to appear, the views become more and more restricted and the owner of a place ultimately finds that he has paid dearly for something that the subdivider did not deliver to him.

Based upon such an initial classification of land as suggested

* Trends in Urban Real Estate Values, Stanley McMichael, The Annals, March, 1930, p. 174.

above will come in time districting plans establishing minimum lot sizes. It is doubtful if there will be legal authority to compel a land owner to cut his lots in units in the size established in the districting plan, but building permits for the use of lots platted subsequent to the adoption of such a districting plan and having areas less than required for building purposes can be denied. In California, where the water supply is limited, fire hazards great in summer, sanitary problems often serious because of the character of the soil, it is believed that such lot size regulations can be justified under the police power. In Montecito, a residential district adjoining the city of Santa Barbara, a districting plan has already been adopted establishing one acre as the minimum building site for residence purposes in fully eighty per cent of the 36 square miles covered.

Effort is being made in cooperation with realty groups to relate lot production to demands by analysis of population growth, ratios of income groups and the present state of ownership and development of subdivisions already platted. The facts disclosed by these studies are being made available to subdividers and realtors so that they may see how the realty market would be affected by over-production. It is hoped by this study of the facts to prevent the development of realty conditions which may disturb the economic balance of the community.

Controlling Metes and Bounds Selling

The Santa Barbara County Planning Commission still finds difficulty in dealing with the subdivider who wishes to escape public regulations by selling by metes and bounds. As has been stated above, the present Map Filing Act of California is a great improvement over previous acts in that it requires every subdivider to submit a preliminary plat. Notice is thus served upon the Planning Commission and public officials that a subdivision is contemplated.

The subdivider, however, still has legal means of escape. This state of affairs can probably never be legally corrected by an out-

right prohibition of land sales by metes and bounds. It is doubtful, in fact, if such a prohibition would be desirable. There is an increasing number in every community who prefer to buy tailor-made building sites rather than the hand-me-down lots purchased from a conventional subdivision map.

The control of the metes and bounds subdivider may be satisfactorily secured as far as planning agencies are concerned if some of the following provisions were written into the present Map Filing Act:

1. A fine for the sale of a lot not shown upon a recorded plat.

2. Any unrecorded map displayed in connection with a sale by metes and bounds must have upon it the following words in letters not less than one-half inch high: "THIS SUBDIVISION NOT APPROVED BY SANTA BARBARA COUNTY."

3. A disapproved map must be sent to the Real Estate Commissioner of the State with reasons for its disapproval, and the map must be subject to a hearing before him before sales can be made therefrom by metes and bounds.

4. The Recorder of Deeds must refuse for record or filing any map not approved by the Planning Commission, which map shows new public streets or ways.

5. Possibly a subdivider should be penalized for displaying a map showing more than one lot if such lot is to be sold by metes and bounds.

The sale of lots by metes and bounds is being more definitely curbed every year. Utility companies are making extra heavy charges for bringing service into such subdivisions; banks and money lending institutions are refusing to recommend loans on lots in such subdivisions, and title insurance companies and surveyors make extra charges for the increased work of running a title in such subdivisions. The lot purchaser finds it difficult to get streets paved for the delivery of material for his new home and suffers many annoyances and mental trials not encountered by the owner of a lot shown upon a recorded plat. These difficulties and sources of extra expense are being brought to the attention of the

public through reports and newspaper articles prepared by planning agencies.

Getting Plans Carried Out

A county planning department permits the introduction into the county for consultation service to all planning groups of the county of a planning executive somewhat better qualified to deal with subdividers and the subdivision problem than any of the laymen who are likely to make up the planning commissions or any of the young engineers or draftsmen whom these commissions might employ. The cost of maintaining a competent planning specialist can be met by dividing his salary proportionately among the planning commissions using his services.

Close contacts and cordial relationships can be established with land owners and subdividers. Through these relationships the new forms of land planning and community development such as are being tried out in Radburn, Mariemont, Sunnyside and Palos Verdes and are so well presented in Volume VII of the New York Regional Survey can be brought to their attention. The initiative of the subdivider can be capitalized and turned to community benefit.

The realty interests of any county or any city should be the most powerful allies of the planning agencies, but no serious effort has yet been made by the planners to cultivate the friendship of this active and influential group. This cannot be done unless there is some one representing the planning agencies willing to work directly and sympathetically with these groups, and having the training and experience needed to make his efforts and his opinions appreciated.

Mere ability to produce a picture plan and leave it in the hands of a planning commission is not enough. The business of planning goes on day by day, and there is enough of it going on in any fair-sized county to justify the county in maintaining a clearing house for all such activities. A way is thus offered for the restoration of life and interest to city planning commissions that have had a

beautifully printed plan laid in their hands and then died for want of proper direction of the continuing work.

DISCUSSION

Robert Whitten, New York City: The prevention of the sale of lots by metes and bounds is a problem that both speakers have referred to. Under the state enabling act in New York, which provides for the adoption of an official plan, no permit for any building may be granted unless it is located on a mapped street shown on the official plan. This pre-supposes the preparation of an official map, but a number of communities have adopted the existing street system as the official map. It is further provided in the enabling act that whenever a subdivision is approved by the planning board that subdivision is automatically added to the official map. Consequently the planning board can effectively prevent, not the sale of lots by metes and bounds, but the building on lots that have been sold by metes and bounds. Since the state enabling act applies to cities, villages, and townships, there is no land within the boundaries of New York state which may not have the benefit of the law.

Both speakers have also hinted that we should consider the laying out of subdivisions not as a problem of the arrangement of lots and blocks, but of the building of a community or neighborhood. We have made a good deal of progress in our discussions of what constitutes a self-contained neighborhood. If, for example, we are concerned with an area which is to be primarily residential, we must see to it that all community needs are provided; that is, neighborhood parks, playgrounds, school groups, and local shops. The street system should be so arranged that there will be no invitation to through traffic to use any but the boundary streets. The streets that traverse the community should be kept quiet and safe.

I think the subdividers are going faster in this direction than the planners are in their thought and action. Among the subdividers of the National Association of Real Estate Boards, the term "subdivision developer" rather than "subdivider" is being used to distinguish between the man who simply maps out lots and blocks and the man who develops a community. There is no logic in planning the layout of lots, blocks, and local streets unless you know what kind of development those streets, lots, and blocks are to serve.

I have had the opportunity during the last six months, under the auspices of the School of City Planning of Harvard University, to make a study of housing density with special reference to lower and medium cost housing types. Figuring on a conservative basis, it costs about $8 a running foot to install such improvements as paving, sewers, storm sewers, sidewalks, grading, curbing, and tree planting. Under the usual plan of subdivision layout with blocks about 600 feet in length, the cost of improvements for each foot of lot width is greatly increased on account of the utilities that have to be put in at intersections and on the sides of corner lots. We can reduce improvement costs 15–40% by lengthening and widening the blocks. These larger blocks can be developed with culs-de-sac or dead-end streets and considerable areas within the block can be used for play parks. It is possible by innovations in design to provide with the same density of housing at least 15–25% of the land for park areas.

I would also urge that platting regulations and zoning regulations should be imposed at one time and by the same authority. Such regulations can be wisely imposed only for a whole neighborhood. I want also to emphasize Mr. Crane's point that we need as planners to study, re-study, and improve sub-division regulations, recognizing the need for variety in block lengths, for quite revolutionary types of land subdivision, and for extra widths of road where a railroad or highway grade separation may become necessary.

Edward M. Bassett, New York City: In the seventh of Mr. Crane's concluding recommendations he says, "Pending county or township zoning, or wherever such zoning is found impractical, the power to require the imposition of use restrictions by the subdivider is essential to controlling the use of land." I appreciate that Mr. Crane is not suggesting that this can be done now under existing law in any state. He is looking ahead to those things which it may be desirable for the law to catch up with. I do not know of any state where his suggestion can be carried out under existing law. It may even be ill advised to carry out this particular suggestion even if it is authorized by law. Let us say that the planning commission says to the subdivider, "This is residential land. We want you to impose at the time of your layout private restrictions to the effect that nothing shall be erected for 20 years except one-family detached houses." The subdivider may well say, "I can't foresee what changes are going to take place. Make your zoning,

if you want to, for one-family detached houses, and then if in 15 years there is a change that makes it desirable to alter the zoning map and provide for apartments or for business, that may be done under police power. If you compel me now to impose private restrictions, no subsequent change in the zoning will affect them."

In Massachusetts and probably other states there are planning commissions doing good work, but some of them have lost in standing and dignity because they have only recommendatory powers. In the state of New York when the planning board approves a plat containing new streets those streets become a part of the official map and building permits can be issued only for buildings fronting on officially mapped streets. By this provision real power is given to the planning board which increases its dignity.

The method of imposing a fine for selling land by metes and bounds without filing a plat is ineffective. There may be cases in the law books where such fines have been upheld, but I have never found them. The standard city planning act of the Department of Commerce uses a method which Mr. Whitten has described, but it also contains the provision for a fine in cases of sale of land without reference to a filed plat. It seems to me that the fine is unnecessary where you have the other method. No man is going to open his land unless he knows that houses can be put upon it.

Someone will say, "Some buildings are not intended to front on streets, and certainly you can't prevent a man from putting up such buildings." Of course that is so. There are many buildings like barns or storage houses which won't front on streets. The New York law has a very simple device for such cases. The applicant simply asks for a hearing before a discretionary board like the Board of Appeals. The Board is given the power to grant such permits in all exceptional cases.

Alfred Bettman, Cincinnati, Ohio: Mr. Crane spoke about the paucity of legal decisions upholding the power to control subdivision platting in unincorporated territory, but I think there may be a good many unreported cases around the country, and I have often thought we should develop an information service whereby we could learn about these unreported cases.

A rather interesting case down our way bears closely on this question. The owner of a tract of land desired to stop his street 15 feet short of the eastern boundary of his premises, which was also the boundary between the city and the unincorporated territory, so that his street would not be available to the people who

might develop the unincorporated tract. The planning commission insisted on his carrying the street to the boundary line. The owner of the tract adjoining in the unincorporated territory submitted a subdivision plan which was approved by the plan commission. This showed a street connecting with the street just described. By these two administrative acts of the planning commission a continuous highway plan and a residential development were more or less assured. Thereupon the owner of land *within* the city got the city council to vacate 15 feet of the street which had become a public highway. The owner of the tract *outside* the city brought an action to enjoin the vacation, and one of the various questions which arose was—can the fellow *outside* the city enjoin an act of the city council affecting land *inside* the city? The court decided that it was an arbitrary act to vacate a street needed for a public highway, and that when the city planning commission has jurisdiction over land within and without the city and has decided that a street was needed, a city council can't vacate it. The decision is squarely on the point that the plan commission may be given power to regulate land outside city limits.

Mr. Crane indicated that we must know what our powers are from decisions and from statutes. I don't believe in doing illegal acts, but I do believe that good planning makes the law rather than that the law makes good planning.

It has also been said that there should be a clear definition of the territory for which subdivision regulation may be made. This suggestion has been followed out in the Ohio statutes. The Governor has the power to define the boundaries of regions. I believe that the trend will be toward giving the regulatory power to regional or county planning commissions. This is simply one phase of the development of regional government due to the rapid organization of unincorporated territory around cities. It will be altogether too complex and make for difficulty of administration to have this regulatory jurisdiction divided into many pieces.

S. R. DeBoer, Denver, Colorado: For the last forty years Denver has had rapid but consistent growth and during that time a good deal of land has been platted into subdivisions, much more than the city needs. Most of the subdivisions are on the west side of the river on land that is not irrigated. This over-platting has resulted in several things, good and bad. It has placed blocks of land directly at the end of traffic lines or drainage lines and without relation to those lines. It has caused in the past a considerable

shock to the real estate values from which the city has not yet quite recovered. But this has resulted in a stabilizing of real estate values on a lower basis from which there have been conservative and steady increases.

The over-platting of the city and its influence on the major street plan is one of the first problems of our plan commission. Although we have adopted a major street plan and some units of it, mostly items of road widening, are under construction, we have not yet established new street lines in the unincorporated areas or even in the subdivided but undeveloped areas within the city.

Since Colorado is eminently a scenic state, we hope to find some way of protecting the highways outside of the city and unincorporated areas from the signboard and the shack. A good many of our mountain roads have been created for scenic purposes only and we must protect the investment by preventing the misuse of the frontage.

H. L. Seymour, Edmonton, Alberta, Canada: The Chairman quoted Mr. Crane as saying in his paper, "The power to require the imposition of use restrictions by the subdivider is essential in controlling the use of land." He went on to say that the law gave no approval as yet to this suggestion and it might not be a desirable practice even if the law did authorize it. In the Province of Alberta we have central planning control and the regulations in regard to subdivisions include this provision: "In areas outside of cities, towns, or villages, every parcel registered by a plan of subdivision is to be included under one of the following classifications: residential, commercial, agricultural." These restrictions, imposed by the central planning authority of the Province, can only be altered by the same authority, but when the unincorporated territory becomes incorporated as a municipality, the regulation can be amended or repealed.

H. B. Steeg, Indianapolis, Indiana: The Indiana Planning Act gives the city planning commission control over land for five miles beyond the corporate limit. That means we have about 475 square miles of territory under our supervision for planning control. In our nine years of existence we have supervised the platting of 75 square miles, and in each new subdivision we have insisted on zoning by private restrictions. In this we have the full co-operation of the Indianapolis Real Estate Board. We do not limit the restrictions as to the use of property for a definite number of years, but all such restrictions are governed by a clause which says,

"Prior to the time this addition is annexed by the city of Indianapolis and zoned by the said city, such restrictions shall be enforced." Although there is no law to back up our method, we have sold the real estate subdividers on the proposition that deeded restrictions are a great benefit to the sale of their property and we have never had an instance of an owner objecting to imposing these restrictions.

A. B. Horwitz, Duluth, Minnesota: There are many platted areas which were laid out in boom periods and are still only paper plats. However, the owners have the right to sell lots from these plats at any time and eventually improve the area. Where there have been many sales from such a subdivision, re-platting is considerably handicapped, but in many cases a good deal of the subdivision is still in the hands of one real estate operator or an operating company. The enthusiasm with which the operator will react to a re-platting proposal depends upon the benefits that can be shown him. Here there is a real opportunity, because most of these paper subdivisions are usually of rectangular type with narrow lots and short blocks, and a re-design will show much saving. In every case, however, the planning department must take the initiative. It is a job of salesmanship.

C. E. Hatch, Toledo, Ohio: Subdivision work is being done by all kinds of people, not only engineers and surveyors, but by draftsmen, and even an attorney or two. As long as they can induce their clients to stake out a subdivision by metes and bounds without coming near the planning commission they will do it, and in subdivisions ten miles out into the country you will find 30 foot roads and lots 30 feet wide and 100 feet deep. We have a state law which requires the recording of all subdivisions, but it is as full of holes as a Swiss cheese.

The county recorder and the county treasurer appreciate the fact of the extra amount of work for them when a parcel of land is sold by metes and bounds. Whenever in the checking up of tax reports the indications are that a piece of property has been cut up and sold to two or three owners, they have adopted the practice of notifying the office of the county planning commission. The planning commission has adopted the practice of getting in touch immediately with the original owner and persuading him to use better methods. I can't say that it's 100% perfect, but I do believe that to date we have eliminated 65% of those owners who in the

last few years have been accustomed to selling by metes and bounds.

George H. Herrold, St. Paul, Minnesota: The beginning of city planning in unincorporated areas seems to me to be the creation of a thoroughfare plan and after that zoning, and wherever possible both should precede the subdivision of the land. In Ramsay County, in which St. Paul is located, the county engineer and the city planning engineer of St. Paul prepared a thoroughfare plan for the whole county. This plan has been adopted by the county authorities as a police power act and recorded in the office of the registrar of deeds. The acceptance of plats both in the county and in the city is acted upon by a platting commission created by state act, and the thoroughfare plan is its guide.

Mr. Crane: I appreciate that the installation of utilities as a condition for approval of plats is required in many places and that such improvements run all the way from surfaced roads to the most complete improvements of the best subdivisions. I have no quarrel with the principle involved, but have found that it was not a satisfactory method in many cases. I question whether it is sound planning to give official sanction to excessive land subdivision even when the plats are fully improved. There are a number of operations in the Chicago region where subdivision syndicates are providing full improvements even though there is little chance of the land being actually built upon. In these instances the damage to the public is greater than if there were no public services installed.

Question: Has there been any co-operation between subdividers and municipal authorities in the matter of reservation by the subdivider of areas for parks, playgrounds, and school sites?

Mr. Whitten: The New York law provides that the planning board shall in its approval of plats consider whether there has been a reasonable reservation of recreational spaces. This does not mean that planning commissions can compel the setting aside by the subdivider.

But in the negotiations between the commission and the subdivider there are many favors that the subdivider wants and in return for these favors the commission can suggest reservations. I can give no specific instances. The New York law is only two or three years old and it has been actually used by any community for only a little over a year.

Mr. Crane: There have been many instances of dedications of park land and school sites, in some cases without any pressure. I know in one case of a 2,500 acre site from which 16 sites all told were dedicated to the public for park and school purposes. It has become almost an established policy for the subdivider to recognize his obligation in this direction.

Question: What is the experience in unincorporated areas in requiring improvements as a condition of the approval of subdivisions?

Mr. Tilton: If the requirements in remote subdivisions are made too stiff, the inevitable reaction of the subdivider will be to do as he pleases and sell by metes and bounds and not ask for the approval of the subdivision. If the requirements are reasonable and especially based upon considerations of public health and public safety, disapproval by the planning commission will be more likely supported by real estate interests, by the public, and by the courts. We have adopted three nominal requirements for subdivisions in outlying districts. There must be for each lot owner an adequate water supply, safe domestic waste disposal, and the streets brought to a grade which meets with the approval of the county engineer. For plats lying adjacent to a plat already developed, even although in unincorporated areas, we require additional improvements corresponding to those in the developed tract.

Question: How are permits issued or refused in unincorporated areas under the New York planning act? The usual custom is to have permit departments only within municipal limits, not within counties or townships.

Mr. Bassett: In a planning sense there are no unincorporated areas in New York or in New Jersey under the recently enacted statute. Every foot of the land in New York is either in a city, village, or town, and the planning laws cover all three. Some of the best organizations for issuing permits are in the towns. A New York township that has *not* taken advantage of the planning law would be in a situation which would give rise to the question.

J. B. Weaver, Des Moines, Iowa. Outside of the cities in Iowa, we have township government which is the loosest kind, although very tenaciously held by township trustees. I can't imagine these township officers setting up any system of control over subdivisions. I wonder if by extending the power of the planning

commission to areas outside of the city and imposing on them urban restrictions like zoning in any degree, we do not imperil the whole movement.

QUESTION: Suppose that after an area has been platted and the streets within it dedicated, the subdivider, city planning commission, and everybody else in it agree that a certain street should be vacated except the owner of one lot fronting on the street proposed to be vacated. In Texas that one individual can enjoin the vacation, and this right militates tremendously against the restudy and re-platting of property which has been improvidently platted. Is there any way out of such a difficulty?

MR. BASSETT: I think we should first appreciate that in New York State there must be a reciprocal act on the part of the municipality before a dedication is consummated. No municipality can have a street thrust upon it by an act of the subdivider. There must be some act which can be interpreted to be an acceptance by the municipality. So the mere filing of a plat which places these streets on an official map is not a dedication. The local situation with regard to dedication is quite different from that in Michigan. You are all acquainted with the Detroit decision to the effect that the allowance of the filing of a plat will be consideration for acquiring the dedication of the streets shown in the plat. That doctrine has now extended to almost all of the eastern states.

If there is an offer of dedication on the part of the subdivider outstanding, but no active acceptance on the part of the municipality, then of course the municipality can say, "Never having accepted the dedication, we agree to a withdrawal of the offer." If the municipality has accepted the dedication then there is a public street just as surely as if the street had been deeded by the owner or condemned by the municipality. Then if the municipality tries to vacate and some owner protests and attempts to enjoin, there is nothing left for the municipality to do but to initiate a street closing proceeding. The owner has his right to appear in that proceeding and receive damages for the closing of the street. That is a property right which cannot be taken away from him without due compensation in any state of the union.

THE BETTER USE OF THE CITY STREET WITH SPECIAL REFERENCE TO PARKING ON AND OFF THE STREET

Miller McClintock, Director, Albert Russel Erskine Bureau for Street Traffic Research, Cambridge, Massachusetts

Statement of the Problem

If one were asked today to name the most serious physical problem confronting the American city, he would probably be justified in saying that it is the problem of the safe and convenient movement of persons and materials over the streets. In recent years the situation has been rendered more complicated by a rapid increase in the volume of traffic. The automobile has grown in importance.

In a number of cities studies have recently been completed showing the percentage of persons who come daily to the central business district by various means of transportation. In Washington, 55% come by automobiles; in Kansas City, 33%; in Boston, 25%; in San Francisco, 23%, and in Chicago, 19%.

This increased automotive load upon our streets has thrown traffic facilities out of balance. Street space is inadequate to meet the needs, and the resulting congestion is one of the heaviest economic burdens which cities must carry. In one of the larger American cities one taxicab company alone, by saving one minute through improved traffic regulations in the central district, saved $100,000 a year in gasoline cost alone. In Kansas City the annual loss due to street congestion capitalized at 5% amounts to almost $250,000,000. These figures are typical of the operating burdens which must be carried, and indicate something of the capital expenditures which cities would be justified in making to relieve themselves of the burden.

It is not alone in current costs of an economic character that the real burden of the traffic problem is making itself felt. Congestion has warped the growth of residential areas; it has tended to distort proper and normal development in business areas. Decentralization fostered by actual district and community needs in secondary areas is very desirable, but when decentralization comes from abnormal congestion then the movement is undesirable and results in the breakdown of the normal pattern of development. The current shifting of business site values in the central districts of American cities is a problem of tremendous economic importance.

Another burden resulting from street traffic has been gravely aggravated during the last year. The year 1929 showed a very unusual and unexpected increase in the number of automobile fatalities throughout the United States. The increase was from 27,500 in 1928 to 32,000 in 1929. If the figures in 1929 indicate the beginning of a trend, we are confronted with a much more serious accident problem than any of us ever imagined.

Relation of Planning to Traffic Control

There are only two methods of relief, or only two techniques to which we can turn for assistance. *One is the intelligent planning and replanning of the physical facilities of American cities; the other is the intelligent control of the use of those facilities.* Somewhere there has arisen the misapprehension that traffic control and city planning are competitive techniques. If you ever find anyone anywhere in the United States interested in the regulation or the control aspects of traffic relief who says that control can serve as a substitute for intelligent planning, you can put that person down either for an ignoramus or a charlatan. Control of traffic is merely a technique designed to keep existing arteries at the maximum of efficiency, *and to make new arteries of travel which are created by planning or replanning operations of maximum use to the city.*

The future must show a much closer relationship and co-operation between agencies for control and regulation and agencies

for planning and replanning. There are many instances in the United States where the most desirable types of public improvements from the standpoint of their general design have resulted in practically no increase in utility so far as traffic relief is concerned because of a failure to recognize or apply some very simple control principle. One improvement in an eastern city was constructed at a cost of $3,000,000 to accommodate one line of parking and three lines of traffic in each direction. But because of the failure to apply a very simple control regulation for only a small portion of the length of that artery, today it accommodates no greater a flow of traffic than before the expenditure was made.

It is probable that 50% of the streets that have been built in American cities within the last 10 years have been built with no recognition whatsoever that we are not still living in a horse and wagon age. I refer now not to the general capacity and design of the entire street plan, but rather to a cross-section of individual streets, such matters of detail as the crown of the street, the curb returns, the practice of leaving open gutters or depressed drains—details which in their total effect make a street good or bad for motor traffic. The matter of intersection design is a great problem in itself, one requiring the most careful and constructive attention on the part of city planners and all engineers who are in any way responsible for the adjusting of our existing streets to the flow of traffic. A thorough and complete knowledge of the control requirements and characteristics of traffic movement is essential in the intelligent design of the city plan, and is likewise essential in order that the planner may meet objections and obstructions that are thrown in the way of the designs which he recommends.

In some ways, foremost among these problems of control is the one to which we are to give special attention, that is, parking and garaging.

Terminal Facilities

So far as the central business district is concerned, there are two factors involved in the relief of traffic. One is the facility with

which traffic in the metropolitan area can move from the outside into and through the central business district. The other is terminal facilities. If there are adequate routes of travel, we will not have an abnormal and unnatural decentralization, to which reference has already been made. But if there is no place to stop, the speed of a motor or a truck from place of origin to place of destination is immaterial.

Parking

Parking is one of the integral aspects of the problem of traffic relief. I think it is the most pressing aspect. Even in our most congested cities the avenues of approach, no matter how congested, are still capable of carrying in and out far larger volumes of traffic than can possibly find terminal accommodations within the central district. The first problem is not to increase the capacity of the travel routes, but to find places for the vehicles to stand once they have arrived. Obviously routes of travel and terminal facilities must develop conveniently. But since the capacity routes of travel are greater today than terminal facilities, the pressing problem is to increase the terminal facilities.

There are three general types of parking demands, and, of course, many variations of these three types: First, a brief stop for the purpose of loading or unloading passengers or merchandise. That type of curb use is by far the most efficient. There is a high turnover. The vehicle stands only so long as is necessary for the actual transaction of a piece of business which is intimately connected with the purpose for which the street was designed, that is, transportation and travel. The second class of parking demand is that of the short time parker. By and large throughout American cities and on the basis of the study of hundreds of thousands of vehicles, the average time required for this use is about thirty minutes, and over an eight-hour business day that means a 1600% turnover of the space. The third type of use is the long-time demand exercised by people who are usually in business of some kind at a location in

the central district. Even in cities where parking limits this class of curb use, it is still substantial in amount.

The curbs must, of course, make as much provision as is necessary for the first class, as much provision as is possible for the second class, but the third class must be eliminated. It has no legitimate part in the traffic picture of any busy central district.

Curb Parking

Attention is directed briefly to some of the legal and economic aspects of curb parking. It is a carryover from hitching-post days, and the attitude of retail merchants toward parking is too frequently a carry-over of the attitude of their ancestors toward carriage trade. The fact is that the use of the curb for parking is a private use of a public facility dedicated to the sole purpose of public travel and transportation and uses immediately associated therewith. When parking interferes with the purpose for which streets were dedicated it is an abatable nuisance. The courts have been very firm and have upheld police regulations in many cases which perhaps were not actually justified by local conditions.

The capacity of the curbs in American cities is very misleading. For example, the actual physical capacity of the curbs in the entire Loop district in Chicago is but 3,600 car spaces. By eliminations for alleys, driveways, fire hydrants, and other physical limitations, the actual legal capacity before parking was prohibited was reduced to 1,100 vehicles. There are numerous garages in the United States that have more capacity in one building for the parking of vehicles than the entire curb capacity of the Loop district. There is one garage in Boston that has more capacity than the entire retail district of that city. Curbs can never be depended upon for a solution of the parking and intown motor terminal problem, because their capacity is negligible.

Curb parking will be eliminated eventually in the central districts of all the larger American cities. The sooner this is recognized by all who are responsible for the development of the city, especially by property owners and lessees in the central

business district, the sooner we will solve our terminal problem. I should not, however, desire to have you conclude because of this statement that the time has now arrived when parking ought to be prohibited in all cities. I have been associated with a number of metropolitan traffic studies designing systems of control for central and other districts within the city, and out of all these studies there results only one recommendation for a blanket prohibition of parking in the central business district. That was in Chicago. The others have resulted in additional restrictions and limitations which eventually and logically will lead to prohibition.

Curb Loading Places

The first and simplest regulation of curb parking is in the provision for an adequate number of loading or unloading places along the curbs. If the entire curb area is permitted for time limit parking, it will be saturated during the greater part of the business day and there will be no room for brief stoppers, except in second lines. Double line parking is a very serious threat. In 1924 traffic movement in Los Angeles was stagnated by it, for in practically every block a double parked vehicle overhung the street-car track. Double line parking amounted to 10% of the total number of standing vehicles. Los Angeles installed a series of loading spaces and two years afterwards it was found that only one-tenth of 1% of the vehicles were standing in double lines. During the interval the capacity of streets had increased by more than 50%.

Curb Time Limits

A second regulation is aimed at an equitable division of the curb space by a placing of time limits in the more congested or high demand parking districts. These time limits range all the way from five minutes to two or three hours, the one hour limit being the most generally used. Notwithstanding that prohibition of curb parking is inevitable, it must be approached with very great care. Where adequate off-street terminal facilities have not been provided, business of necessity must be transacted at the

curbs. All regulations should be preceded by a careful study to obtain accurate knowledge of the volume of traffic and the characteristics of its flow, particularly with regard to efficiency of movement; to secure knowledge of commercial operations and the demands which they have for loading and unloading; knowledge of traction movements; knowledge of the relation of parking to business; and finally a study of the alternative facilities which are available. All of these factors were obtained in the Chicago study and all of them led to the conclusion that business would be assisted and that the whole traffic and commercial transportation system for the central area and for the entire city would be made more efficient if parking were prohibited. Merchants were surprised to find that instead of receiving from 25% to 50% of their business from curb parking, they were receiving 1½%. Merchants in other cities are usually surprised at the relatively low amount of patronage that resulted from curb parking when competent facts are collected.

Enforcement

Parking regulations can be enforced if the Police Department receives a reasonable amount of public support. Often the people most interested in the efficient and equitable distribution of curb space—I refer to property owners and merchants—are among the first to be willing to break down public discipline. They want tickets of their customers cancelled. Another difficulty has been the catching of the offender. At a recent conference in Washington on uniform traffic regulation it was agreed to hold the registered owner of the motor vehicle responsible for parking regulations, no matter who is actually using the car.

Garages

With the best of parking regulations the terminal motor problem can not be solved until intelligent off-street facilities have been planned. The requirements are first that the terminal garage or parking lot should be in close proximity to the destination of the

user. The motorist does not like to walk, nor does he like to change his methods of transportation. The garage serves a very limited territory. The terminal facility must be designed in such a way, and be of such a capacity and have such operative characteristics that it will not overload the adjacent streets. They should be limited in size. Practically all of them show peak loads in the morning and afternoon hours. A structure with a 2,000 car capacity with a peak load from 15 to 30 minutes in length may readily throw upon the street a load of 1,000 to 1,500 vehicles, and that load may be in actual excess of the total capacity of the street.

The third characteristic of the terminal facility is that it should be so designed internally that it can effectively and quickly handle the vehicles which use it. Remarkable developments of a mechanical and automatic character have taken place in the last two or three years. Rapid automatic handling of cars has now reached a high degree of perfection and has been used successfully in structures twenty stories in height.

Let us turn briefly to the types of terminal facilities which we may expect will be built in American cities in the future and which are by character properly destined to play their part in relieving terminal burdens.

Special or Private Facilities

It is amazing to see magnificent hotels and beautiful office buildings being constructed which contain every conceivable luxury and convenience *inside*, but outside are almost criminally lacking. The owners of these structures are apparently under the misapprehension that they are building a two or three story inn or building in a little town in the early eighties, for it is apparently their intention to handle every commodity and person that goes into the building over the sidewalks. It would seem that the time has come in our building laws in all larger American cities to say to every individual who desires to build such a structure, "Your building is going to be a permanent improvement. The great capacity of this structure as compared to the one that was here

before is going to draw thousands of tons of commodities to your doors, and tens of thousands, maybe millions, of persons to be loaded and unloaded at your curbs. You must provide within your structure or on your property at your own expense adequate facilities to take care of at least the essential minimum requirements of this character." Five years ago that might have been a radical requirement. Today it is an essential necessity. It is certainly not right for a builder to throw back upon the streets an entirely unnecessary burden of operations which logically ought to be conducted on private property.

General or Public Facilities

First the parking lot. The capacities of parking lots in central districts vary tremendously in different American cities. Some cities, for example, have practically no lot capacity for this purpose. In Los Angeles I think I am safe in estimating that the capacity of parking lots in the central districts is not less than 20,000 vehicles. In Kansas City it is between 7,000 and 8,000 vehicles. In many places these parking areas have come into existence through the demolition of buildings that are not paying their way. Owners have found it more profitable to use the spaces for parking than for building purposes.

The practice may open valuable opportunities in community planning. We have given up any hope in most cities of obtaining any open area in the heart of the central district, although we all recognize the desirability and utility of such areas. Can we not make a new use of this terminal necessity? May we not be able to demolish all of the buildings on entire blocks, use the land not for parks, but for open and improved parking areas, with as much benefit from light and air as if they were parks and yet make them pay their own way as sound business ventures? I am not thinking of this new and maybe revolutionary kind of parking lot as a waste place with a few cinders thrown over the surface and an old cable fence strung around it. The parking lot can be almost as beautiful as a park, and some are a great deal more beautiful than some

parks. This suggestion is not so radical as it sounds. By a little pressure from the standpoint of zoning and by a little public opinion I believe we can devote at least a few blocks to open-air convenience in the hearts of our most congested districts. It is probable that the parking lot as it exists today in most cities, unless it is preserved by some such method as I have mentioned, is a transitory agency of service, will go out of existence as soon as its owner feels that it can profitably be built upon.

Second, the so-called commercial parking or storage garage. Only a few years ago it was very difficult to interest any bankers anywhere in the country in investing money in central garages. The embarrassment nowadays is to keep them from investing too much money. The large capacity commercial garage will probably continue in the future to develop as an important factor in terminal facilities.

An even more impressive and interesting development, however, is to be found in what may be called the integral garage, or garage built as an integral part of an office, hotel, or other structure in the central district. This development has taken place in quite an astonishing degree. In the Pacific Coast cities, Portland, Seattle, San Francisco, and Los Angeles, the incorporation of garages in office buildings is now almost standard practice. Los Angeles has, for example, in its City Hall parking capacity for 600 automobiles.

The final trend in this development is clearly forecast. It may be called the self-contained block, that is, a block or city square which contains within it all of the facilities necessary so far as it is related to automotive traffic. In the central area of the block there will be a structure capable of accommodating all of the commodity and commercial movements, and in addition provision on the upper floors for the parking requirements of all the tenants and patrons of tenants who have business within the block. This self-contained block has just been proposed by the National Capitol Park and Plan Commission as part of the program for the development of government buildings in the so-called Triangle Area.

Another interesting example of the fulfillment of this tendency is shown in the Pickwick Hotels Building in Kansas City and in the Carew Towers now being constructed in Cincinnati.

There are several other points with respect to the problems of terminal development, as, for instance, the necessity for more adequate information regarding demands; the desirable changes in zoning regulations which often place unnecessary handicaps on garage construction and like changes in building laws, and finally the question of control of garages as quasi-public utility operations. Time does not permit a discussion of these important problems.

My conclusion is that terminal facilities are the controlling factor with respect to automotive traffic in central districts today, and that if we are to develop a logical balanced system of street transportation and traffic we must in the next decade apply a great deal of constructive and intelligent planning to that problem.

DISCUSSION

Robert Kingery, Chicago: All of Dr. McClintock's recommendations are worthy of our most careful consideration. May I endorse with enthusiasm his plea for joint studies by traffic experts and planning experts. We want to get entirely away from the kind of city planning which is almost exclusively a job of street widening with a civic center thrown in as good measure. The suggestion for the reservation of a space for loading and unloading next to the curb is equally good and was ably illustrated. Sometimes this space is provided by setting the buildings back and developing a local street pavement close to the buildings for that purpose separated from the through traffic by a strip of park. Now, too much of the parking lane next to the curb is not available to the customers of the stores.

For example: recently a group of business men on West Madison Street, Chicago, a main east and west thoroughfare, complained that there was not space enough for patrons to park their cars while shopping. The secretary of the local improvement association, without saying anything to any member of his organization, made a special investigation by taking down the numbers of every car parked along those two miles. He discovered, not much

to his surprise, but to the surprise of every one of those merchants and their clerks, that they themselves were occupying almost every front foot of that space. As a result, the merchants leased or bought several vacant lots and some space in the middle of blocks, covered them with cinders, and made their own parking space, leaving the curbs for their patrons.

There is a tendency, both in Chicago and the surrounding area, for theatres to provide their own vacant lot parking space. Recently the Balaban and Katz chain in Chicago announced that they were planning a parking space for two thousand cars within two blocks of their new theatre.

An improvement has been brought about at the recommendation of our organization, the Chicago Regional Planning Association, largely as a result of our study with Dr. McClintock of the need for clear lanes for moving traffic in the Region of Chicago. The States of Illinois, Indiana and Wisconsin have joined with the counties in declining to widen pavement or lay new pavement on state and county highways until there is provided between existing curbs and the edge of the improved roadway a space of not less than 6 feet wide for parking purposes. If there are no existing curbs, then the state and the counties jointly require the property owners or the municipalities to provide 8 feet at least on each side of the proposed improvement. The road itself must be 20 or 40 feet wide, because we insist on an even number of lanes 10 feet wide for moving traffic in each direction. The parking space must be in units of 10 feet or 8 feet, 10 feet where buses stop and 8 feet for normal car loading space or parking in business areas.

Dr. McClintock has pointed out what a very small proportion of the motor traffic that comes into the central business area brings business to merchants located at the center. I think this is more so in Chicago than in other cities because of the greater efficiency of rapid transit facilities on rail. But it is true to some degree in the central districts of all cities.

John E. Carroll, Seattle, Wash: I am an endorser, too, like Mr. Kingery. Certainly there is no greater subject that confronts you planners than the question of street congestion and its remedies. The planners have satisfied themselves to date with offering means of ingress and egress to our business districts and then moving on to some other problem, leaving it to the police department to settle the congestion created often by the planners themselves. As a city official I appreciate the difficulties that the police

department is up against in enforcing regulations. The city officials are concerned with the expenses of government. Police regulations are only one item, and an item that may not be adequately supported by appropriations.

I like, too, Mr. McClintock's suggestion that business houses and hotels should provide for themselves off-street space to carry on their own business. No hard and fast rule, however, can be laid down on this or any other question covered by Mr. McClintock. Each community has its own set of problems, and only by an intensive study of local conditions can the right answer be found. I believe that the property owner and the business man can be led to see the advantages to their property and to their business even if the path leads to no parking in the business district.

John Nolen, Cambridge, Mass: I had not realized that the parking lot might occupy such an exalted position in the working out of the terminal problem in the central district. I am wondering whether the town itself would be justified in acquiring such spaces for parking purposes, especially in areas of depressed values. Or whether encouragement could be given to private owners for maintaining such parking areas by some adjustment in their valuation for assessment purposes. In our Institute meetings we have puzzled over this question as related to the preservation of large open spaces, like golf links, but have come to no conclusion.

The second thought that I have is related to more effective detailed or site planning. I feel that the planners are not grasping efficiently the opportunities that exist in every city for securing more adequate parking areas. In other words, as has already been suggested, we are not using the same skill that the specialist in traffic regulation is using.

A third question is illustrated by the problem of a new courthouse in the city of Reading, Pa. If it is built in its present location it would have to be a skyscraper because of the limitations of lot area, and there would be no thought of taking care within the building of its own parking requirements. Contrasting with this location are the very much better opportunities elsewhere for erecting a proper municipal group with much better provision for traffic requirements. I have found in many places the strongest prejudice against moving public buildings from their old locations in central sections even though those locations were objectionable from other viewpoints.

Edward S. Nettleton, New Haven, Conn.: We have tried loading zones in New Haven, using a space about 40 feet in length and selecting those points where there has been the greatest difficulty in getting access to the curb. The scheme was not favorably enough received to establish it by ordinance and is no longer in use. We have experience also with parking lots in districts both of good values and depressed values. In some of these buildings of four stories have been removed and it has been found generally by the owners of the property that to rent space at 25 cents a day yields a greater income than they had from the buildings formerly. There has been adverse comment, of course, because the only revenue to the city is from the land tax.

Harland Bartholomew, St. Louis, Mo.: You will notice that Mr. McClintock does not recommend a no-parking regulation for all cities. In St. Louis, for instance, we have no parking during the morning and evening rush hours. On certain busy seasons of the year, like Christmas, we have no parking on the streets which are the termination of the principal traffic arteries. In other cities even more modification of the no-parking rule will be desirable. In Knoxville, Tennessee, we found that about thirty per cent of the local business apparently came from automobiles parked at the curb. This is a factor of increasing importance in smaller cities and should certainly be taken into account in determining parking regulations.

As to terminal facilities, I believe that public spaces as well as private can be used advantageously for parking. In the original design of Grant Park in Chicago there was no provision for parking space, but pending the completion of the park an area was set aside to accommodate 3,000 parked cars. It was used so much that in the final design there was included a parking area for 6,000 cars. In St. Louis we have a municipal market in the heart of the downtown district. When the market was rebuilt plans were prepared for the use of three floors on top of the market for parking space. Although there was a great controversy about whether a city should go into the parking business, the plans for the building had gone so far that it was completed as originally laid out with space for something like 450 cars.

The interesting thing is that although the market venture is no longer self-supporting, the income from the parking space is carrying the entire investment in the $1,000,000 building.

Our St. Louis river front plan contemplates a ground level parking space which will take care of 6,000 cars, ultimately to be developed into a multiple-story garage which will take care of more, and on top of that an open space of the type that Mr. McClintock has referred to. It has also been suggested that we have underground parking facilities in our civic center. This brings up the further question whether it is not possible to provide garage or parking space undergound and treat the surface as a park.

I had occasion three or four years ago to talk with an owner of one of these open squares which was used for parking in Los Angeles. Aside from what he secured from the sale of supplies, I estimated that enough cars were taken care of in a day to justify a land value of between $3,000 and $4,000 a front foot. In other words, the owner would not be justified in selling the land for a building until he could secure $4,000 a front foot for it.

In all discussion of this kind I come back to the question of the whole city plan and the scale of our planning. There is more merit to me in this idea of terminal facilities because of the rehabilitation of central areas. In other words, our open space parking provisions are a part of a definite economic rehabilitation plan, and for that reason a discussion of terminal facilities is of great importance.

Gordon Whitnall, Los Angeles, Calif.: Mr. McClintock advocates that ultimately municipalities require that parking and garaging facilities for private institutions shall be provided on their premises. In the revised zoning ordinance of Los Angeles there is a requirement that in multiple residence districts there must be provision on the premises for not less than one garage for each family unit accommodated. With regard to the use of vacant lots in downtown sections of the metropolitan centers, I have to cite as bearing out Mr. McClintock's prophecy the use of the site formerly occupied by the Los Angeles City Hall. For a year and a half the space has been devoted to parking. The owners of land that faces upon the open square are now incorporating and syndicating their interests with a view to acquiring the entire square, razing all of the buildings thereon and devoting the entire area, a complete city block 330 x 660, to garage facilities for the use of the tenants and the patrons of the property fronting thereon.

Hawley S. Simpson, New York City: As Mr. McClintock very ably pointed out, we are in an era of transition. All of us can remember when automobiles were unimportant factors in the furnishing of transportation on city streets, whereas today, as

Mr. McClintock states, from nineteen to fifty-five per cent of all the people entering the central business districts of our larger cities are being transported by automobiles. We have become motor-minded, some speakers have said, and in this transition we are apt to let our fancy lead us somewhat afield from the sober facts which we are forced to face in other lines of endeavor.

We sometimes neglect to realize that there have always been limitations upon each particular mode of transportation whether by water, rail or highway, and even now by air. The first limitation which the automobile was forced to face was a lack of surfaced highways over which to travel, and later an insufficient width of surfaced highways. After this limitation was met, or even while it was being met, we were faced with a second limitation, that limitation being forced upon us by the fact that there was not sufficient space at the curbs at which all of us could park who desired to drive our vehicles.

We are now meeting the problem of lack of curb space by the rapid development of off-street garaging facilities, and we are prone to feel that perhaps this is the solution of our street storage problem. However, I am quite sure that there is a limitation upon off-street storage facilities just as rigid as the present limitation upon curb storage facilities.

Mr. McClintock mentioned the necessity for the provision of parking facilities in connection with office buildings. It is true that we are not inclined to walk any further than from the curb to the door of our office building, as he suggested, and he recommended that terminal facilities be provided within the office building for those who wish to drive their vehicles to the building for purposes of work or shopping.

I have been very much impressed with this argument because I have realized that garages have been constructed in all our larger cities in which the investment has been largely wasted because they have not been properly located. The American Electric Railway Association conducted an investigation of all the structures in which garages had been built in connection with the office building. We found about twenty in the United States, and in only ten of these were we able to get adequate facts. We found that only nine per cent of all the tenants in those buildings were storing their cars in the garages in connection with their particular building. We had expected that this figure would be exceeded two or perhaps even three times if from nineteen to fifty-five per cent of

all the people come in private automobiles. We assumed that the office worker was no different than the average worker, and perhaps in a building of that character he would be a person more inclined to use his private automobile because of the convenience of the facility; yet only nine per cent of all the 14,000 people in those buildings were using the garaging facilities. We were forced to conclude that there must be limitations upon the use which could be made of such facilities.

The cost of this garaging accommodation averaged more than $15.00 a month, which is not the entire cost of travel. The added cost of driving the vehicle to and from the garage increases the transportation cost to at least $20 to $25 a month. This was compared with the commutation rates in New York City, and it was found that the $20 or $25 a month far exceeded the amount being paid by the average person commuting from outside New York City. Beyond a distance of about twenty-five miles, with a commutation rate of something like $12 a month, the number of commuters very rapidly decreases.

There is also another limitation, which is the limitation of space. In this survey, we found that one and one-half times as many square feet were required to garage the vehicles stored in these buildings as is used by the average office worker in the same ten buildings. Dividing by the number of persons per car, we found it would require about the same floor area to store the vehicles as to house the persons using those vehicles. We were forced to conclude that if we wished to erect a 20-story building on a 200 x 200 foot plot, and all the tenants wanted to use private automobiles, half the building bulk and area would have to be devoted to garaging facilities. It seems to me that this is probably an economic impossibility.

I wish to point out this single fact so that we are not led astray by the demand for off-street parking, with which I am, however, in the most hearty sympathy, but it is apparent that such service cannot be made available to any but a limited number of persons because of the restriction of cost, because of the lack of space in which to build storage garages, with, of course, a similar lack of space upon the street for the movement of the vehicle.

Mr. McClintock: Mr. Simpson has said rightly that in the larger centers such as New York and Chicago a great per cent of traffic to the central district must be handled by mass transporta-

tion, not by motor units. If I had been considering the entire transportion problem, I would naturally have indicated mass transportation as the most important single element in solving the downtown traffic problem.

As to the increase in motor use, the last two or three years have shown a very definite flattening of the curve of increase in motor registrations. We are reaching a point perhaps not of saturation, but at least of satisfaction, so far as rapid demands for increased numbers of motor cars are concerned. Along with this flattening of the curve there will without question be an upturn in the curve of mass riding habits. We cannot expect, no matter how well we plan streets and terminal facilities, ever to arrive at a situation where 100 per cent, or anything approaching that percentage of the entire population movement, can be made by motors. Even if only 9 per cent of the occupants of office buildings (and this figure given by Mr. Simpson is somewhat higher than I would have thought) can afford to house their motors in the office buildings where they work, this alone is conclusive proof of the necessity and utility of such structures. It is not to be anticipated that clerical employees in office buildings and others receiving low salaries will ever be able to use the motor storage facilities in their own buildings.

Garage provisions at the terminals of rapid transit lines in the outlying districts are making some headway. This provides the car owner with motor travel during the pleasant part of his journey and he avoids congestion by using mass transportation to finish his trip. The development of this plan has not been rapid, although it does offer one type of solution.

The best example of a parking lot conducted by public authorities is Grant Park, just opposite the Loop district on the lake front in Chicago. It is under the management of the South Park Commissioners and a charge of 25 cents a day is made for storage. It is strategically located for low price, large scale storage because it is within five minutes' walking distance of the center of the city. Its capacity is something higher than 4,000 vehicles. It was one of the important factors which influenced the city to prohibit parking in the Loop district.

If cities own open areas which are not required for park purposes, they can well be used for motor storage and at a price adequate to cover carrying and operating charges. No park areas in the central districts, however, should be diverted from their proper

and legitimate park use for the storage of motors. I doubt, also, whether it is economically sound to provide large capacity subterranean space for motor storage, because of the great excavation and construction costs.

How cities can encourage private individuals to demolish antiquated structures in central locations and use the land for motor storage I do not know. If the city itself is launching definitely upon a program of public ownership and operation of commerce facilities, it is quite logical to buy such areas and devote them to storage purposes. I, personally, am too conservative to believe that such a program is desirable and I doubt if the facts make it necessary. In many blighted commercial districts areas are being devoted to storage purposes without any encouragement or subsidy from a public agency. My own feeling is that encouragement is not so much needed as restraint to compel their development and use in such a way that they will be an esthetic as well as a utilitarian asset.

I appreciate that by proper design it is possible to eliminate in the future the need for at least 90 per cent of the control mechanisms which we are using on the highways today. Westchester County has the outstanding example in this country of a modern motorway system actually adjusted to traffic control requirements. May I conclude with a plea that city planners see to it that all their plans are closely adjusted to actual traffic requirements?

MODERN MOTOR ARTERIES

Gilmore D. Clarke, Landscape Architect, Westchester County Park Commission, New York

Motor arteries should provide for uninterrupted traffic flow and should be as free of crossings at grade as railroads. Now the busiest and most crowded streets of many cities are on through motor routes. It has been impossible to convince the townspeople that by-pass routes are desirable. They think that they are losing business when traffic moves elsewhere. They do not realize that through traffic is a distinct liability.

It is still the policy of many state and county highway authorities to spend millions of dollars on widening old rights-of-way which often cost for land in one block as much as a mile or more would cost for land for a by-pass route. To widen the Boston Post Road, the historic route from New York to Boston, from 66 to 166 feet, it would cost, at the rate of $2 per square foot, which is a conservative estimate, $1,056,000 per mile. The Hutchinson River Parkway, 500 feet wide, cost at the rate of ten cents per square foot, $264,000 per mile. A still better example is afforded by a similar comparison between the Albany Post Road and the Saw Mill River Parkway. To widen the Albany Post Road 100 feet to 166 feet at $1.50 per square foot would cost $792,000 per mile. The Saw Mill River Parkway, 500 feet wide, actually cost at the rate of 5¼ cents per square foot, $138,600 per mile.

The cost of grade crossing elimination is much lower on the parkways because there are fewer cross streets. The greater width of the parkway affords greater flexibility in design and the construction costs are likely to be lower, both in the main structure and the drives or ramps between the two levels. The question of consequential damages to abutting corner properties may be a serious factor in the case of the old road, but this factor has been

entirely avoided in Westchester County on the parkways. A striking instance of the grade crossing difficulty is found in a study made for the widening of Warburton Avenue, in Yonkers, N. Y. In a distance of 4.57 miles there were 22 intersecting streets and 19 through crossings. The cost of grade crossing elimination or dead-ending these streets would be prohibitive.

How is the by-pass route to be developed? If it is to be just another ordinary highway, its value will only be short-lived. "Ribbon development," which follows the borders of most of our arterial routes today, is a most wasteful use of the frontage. It spoils the countryside, lowers land values, provides uneconomical locations for business, unpleasant places to live, and usually results in congestion by adding such obstacles as gas stations and parked cars, all of which retard traffic flow on a road intended for fast through traffic. It is better for business to be grouped together in certain definite areas off the main arteries of communication and reached by branch roads or spurs.

The new arteries must be constructed on wide rights-of-way so as to prevent direct frontage on the highway. They must be built far enough from urban development to eliminate the necessity of crossing a large number of other highways and local streets. The important streets which must be crossed may be bridged and access drives between highways provided to make travel safe by eliminating left-hand turns on one or both intersecting roads. These new highways may be called "parkways," or "freeways," to use Mr. Bassett's new word, depending upon the manner in which they are developed. Mr. Bassett defines a freeway as a "strip of public land dedicated to movement, over which the abutting owners have no right of light, air or access." He defines parkway as a "strip of public land dedicated to recreation, over which the abutting owners have no right of light, air or access. One should think of a parkway as an elongated park, and since it must be used for recreational purposes, traffic must be limited to pleasure vehicles."

The fifteen-mile Bronx River Parkway, in Westchester County, has been the pioneer in this type of arterial route, and the suc-

cess of this "highway through a park" has caused the people of Westchester County to appropriate $60,000,000 since 1924 for the purchase of over 17,000 acres of land and the development of 145 miles of additional parkways. Of a total of 160 miles of parkway lands, 36 miles have been fully developed and opened to traffic and about 33 additional miles are under construction.

"The Westchester County type of parkway is receiving increasing recognition as the most practicable solution of the arterial highway program from an economic standpoint because these parkways have enhanced real estate values along their routes. In their economic effect a marked contrast is presented by the parkway type of traffic way creating attractive residential zones and higher property values as against the destruction or depression of values now clearly in progress along modern highways flanked with miles of billboards and hot dog stands instead of margin strips of grass and trees."* The basic practice in laying out these parkways has been to secure strips having a minimum width of 250 feet. In localities where land is cheapest or there is a pond or the possibility of developing a water surface feature, localized enlargements of the reservation have been made. The motor driveways are 44 feet wide for four lines of traffic. Grade separations have been effected at all main intersecting thoroughfares. Grading and bridge openings are being carried through to a width of 64 feet to provide for future needs.

It may reasonably be said that quite apart from the public welfare benefits of the Westchester County Park System, the greatly increased property valuations have fully offset the capital appropriations. From 1924 up to 1929 the total increase in assessed valuations in Westchester County was $856,000,000. At the previous rate of increase the total for the same six-year period would have been about $350,000,000. An increase of about $500,000,000, or about eight times the total amount of the appropriation, is therefore reasonably attributable to the park program.

* Extract from address delivered at Sixth Annual Meeting of Chicago Regional Plan Association by L. G. Halleran, Deputy Chief Engineer, Westchester Park Commission.

Other municipalities have developed different types of arterial road systems to provide more satisfactory means of getting in and out from the congested centers. I quote a comment on the Roosevelt Boulevard, running north from Philadelphia: "This boulevard clearly indicates what should be avoided in parkway design. To the city line it consists of two 20-foot or two 30-foot pavements with a separating parked strip of approximately uniform cross section. With the exception of a few important railroad grade crossing eliminations, the entire boulevard is at the same grade as the streets of the subdivisions rapidly opening to the north of Broad Street. The continued interruptions of cross traffic within a few years will ruin the parkway as an arterial route."

Detroit is the leader in the development of the "super-highway." That type of arterial road, best adapted to areas where the topography is flat, adequately solves the problem from the standpoint of the motor vehicle if the elaborate grade separations which have been planned are built. However, the border roads will not attract either the best kind of business or residential development. Apartment houses might appropriately be built on super-highways, but they are hardly safe places to bring up children. Grade separation is particularly expensive in flat areas, and the necessarily large concrete structures do not lend themselves to satisfactory artistic treatment. The area in the vicinity of grade separations is likely to become blighted, the structure having somewhat the same influence as a structure for elevated railroad has in the cities. Moreover, a right-of-way 204 feet wide cuts up the city into pie-shaped areas which lack ready contact with one another because of the difficulty in crossing the super-highways.

I recommend therefore that our arterial highways be constructed in rights-of-way wide enough to provide marginal strips for planting on each side of the pavements. Certainly planting which will adequately screen the road from abutting property and serve to keep the noise of traffic contained within the right-of-way is desirable. Ribbon development is impossible along these arteries.

Business is kept from sticking out like knife points into the country. The entire route is left for uninterrupted through traffic, and a pleasant way is provided to get in and out of the city. The land for such a highway can be purchased under agreements which prevent the erection of sign boards within an area of 200 feet from the edge of the right-of-way.

The National Capital Park and Planning Commission has planned systems of parkways extending as arteries radiating out from the center of the City of Washington, and in addition a circular system connecting the outer Civil War Forts. The first project to be developed in the National Capital Parkway plan is the Mt. Vernon Memorial Highway, planned and being constructed by the Bureau of Public Roads of the Department of Agriculture. The Engineers of the Bureau have called upon an engineer and a landscape architect experienced in this development to assist them, and every effort is being made to make this Memorial worthy of the mission it is to serve—a suitable connection between the National Capital and the home of the first President of the United States.

Other cities have potential possibilities for the development of parkways. Among them the Cook County Forest Preserves about Chicago will ultimately serve to provide that great city with the outer parkway system it needs. Counties included within the Detroit region are interested, and Philadelphia is well along on its way toward accomplishing a parkway scheme.

The New York State Council of Parks is looking forward to the extension of a parkway system to cover the entire state, connecting all of the major park areas. The State of Michigan has purchased many miles of rights-of-way through forest land in the northern part of the state at least 200 feet wide so as to preserve strips of native forest growth on each side of the highway. Such a system as is being developed in New York State points the way to the development of a national plan for parkways and highways. Should not this Conference recommend the development of such a system? Great arterial routes should ultimately traverse the coun-

try through wide park-like strips. They would take us by the outskirts of cities and we would hardly know of the presence of the centers of urban population. Spur roads would lead off the main routes to all important centers.

"The public parks to which we are accustomed are only enjoyed by the few who have the leisure and inclination to visit them from time to time.

"The monotonous routine of the daily life of the ordinary business man or woman, the factory worker, the housewife or school child is relieved but little by pleasure derived from parks. But a parkway enriches the lives of all as they go about their daily business.

"Some of our new roads have permanently enhanced but little the value of land through which they pass. In fact, in some instances they have blighted that land and lowered its value. They are so forbidding and bleak, and the rush, noise and smell of motors on them have caused everyone to wish to live anywhere rather than on them.

"To this fact is due the meanness of the buildings which line them, as is also the depressed value of certain sites on them.

"Building sites fringing parkways would be desired by everyone. They would command open views over the parkways of which they could not be deprived. Many of them would reach enhanced values. Good houses would be built on them, but where mean and unsightly buildings were put on them (in spite of their desirability), those mean and unsightly buildings would be but little seen by those who passed along the parkways."*

The parkway, limited to passenger vehicles, would be supplemented by the "freeway," a route designed particularly for the motor truck and bus. It too would be a high speed road and might parallel a railroad right-of-way. Although not constructed on as wide a right-of-way as a parkway, it would adhere to the principle of not permitting frontage for abutting property. If the highway is to keep pace with the development of the motor

* Extract from Annual Address of Barry Parker as President of the Town Planning Institute of England.

vehicle, then it must be planned not only to be fully efficient, but as well pleasing from an aesthetic viewpoint, utilizing the experience of engineers and landscape architects in collaboration. No plan can be too large; none too elaborate. If we do not visualize the development in motor transportation the future is to bring, then we shall make it more difficult for the next generation to keep pace with its time.

DISCUSSION

Frederick Bigger, Pittsburgh, Pennsylvania. Skeptics upon the subject of by-passes and detours among non-technical persons appear to be largely those merchants of central and secondary business centers who have not yet differentiated between what has been called "business-making traffic" and "non-business-making traffic"; and also in this group of opponents may be those property owners whose economic interest appears to be antagonized by the diversion of some traffic to the advantage of other and competing properties. Therefore, one point favorable to the parkway appears to be presentable to both classes of opponents by showing that the elimination from any private property frontage of that non-stop traffic which is transferred to the parkway leaves room for the accommodation of more "business-making traffic."

I believe it is true, as Major Clarke says, that "through traffic is a distinct liability"; but it seems desirable to differentiate in this matter between that long-distance through traffic and that short-distance traffic which is "through" only with respect to one or two points of traffic intersection or with respect to a particular stretch of private property frontages.

There is an implication in Major Clarke's paper that the "parkway" and the "freeway" are primarily substitutes for widening old traffic arteries which are bordered by business and other private use frontages. I doubt if he meant exactly that, but nevertheless I risk setting up the idea as a straw man for the purpose of knocking it down. It seems to me better to regard the parkway and freeway as supplements to, rather than substitutes for, the old arterial widening. These new features are additions to our planning resources, and it may not be out of place to assert that there are conditions under which perhaps a broader wisdom might be shown in rejecting one of these new features in favor of a more costly widening of an old artery.

The assertion is made, anent parkways and freeways, that "there are fewer cross streets." This is certainly true of the New York parkways to which Major Clarke refers, but we ought not to risk being mislead by the generalization. I suggest two points which now or later might profitably be considered:

1. The first point is that as the plan of land subdivision and use of the territory flanking the parkway is developed, new cross communications may become highly desirable. These in some cases may be grade separations, in other cases surface arrangements implying mutual retardation if not actual stoppage of the parkway traffic and the crosswise traffic.

2. The cross streets which offer retardation and stoppage along the route of the old artery for which a widening is being considered may be reduced in respect to the importance of their interference.

(A) By the application of district routing schemes which affect the *quantity* of major flow contact and retardation.

(B) By the application of such general traffic control as will accept a given number of retardations in order to secure a time basis for movement through the widened artery, that time basis being in turn based upon the facilities for absorbing in-coming traffic or disgorging out-going traffic at both ends of the amplified artery.

Not as a prophecy, but as a warning, I venture the suggestion that with seemingly unlimited increase of automobile ownership and use confronting us, the time may come when each of the major arteries of the organic systems we are trying to devise will be an artery with a specific controlling "rate-of-movement-per-hour" related to a similar time index for each and all of the other units of the arterial system.

Again, it may not be out of place to repeat an old warning of another kind, namely, that the multiplication of traffic arteries does not necessarily *simplify* and *organize* traffic movement.

Therefore, the parkway and the freeway must be parts of the organized system and not be inserted without co-ordination. I mention parkways in this sense because of the attractiveness of the Westchester County parkways, which may be an inspiration to duplicate that attractiveness with an eye solely to the possibilities of preserving natural beauty or creating the beauty of disciplined landscape and architecture. Do not misunderstand me. In the first place the introduction of traffic does not permit the preservation of natural beauty—something is inevitably lost, but perhaps

replaced by appropriate man-remodeling. Then too, landscape and architectural developments being possible apart from parkways, as well as *of* parkways, we can be reasonably warned to integrate all major traffic channels into the regional major highway system, regardless of how the borders and intersections of the roadways are handled. The question is—do we develop the parkway or an alternate type?

Again, and to repeat somewhat—whether the parkway artery be radial, circumferential, or meandering in its direction, it would appear that it should *not be solely a tentacle thrust out* of the urban community to tap satellite communities or make contact with other cities, but should be a regional artery related to the plan for the use of all the land of that region.

Joseph T. Woodruff, Phila., Pa.: Major Clarke's paper is certainly refreshing. Except for adjustments to existing arteries involving grade separation, super widths of concrete, super and sub-decked ways, and a rather scattered attempt at roadside improvement and some billboard battling, little new has developed in planning for traffic and the automobile. It is, therefore, always invigorating to hear of an attack of the problem that shows comprehensive planning thought.

Major Clarke would not, of course, have the Westchester Plan applied wholesale to all parts of the country alike. The vast agricultural plain area of the midwest, the congested east, the industrial areas, the fashionable suburb all require special treatment. Until very recently, highway design and construction has been approached by an army of intelligent, conscientious family doctors who watched symptoms and made a good guess at the needed remedy. If the remedy did not work, another was tried. Sometimes the patient died of hardening of the arteries and again of just plain softening of the shoulders.

Balance is a word that one is beginning to hear more of in zoning and planning work. It implies not mere balance in design, not mere symmetry, but a fundamental idea of the facts of the case. We have discovered some of the new laws of the nature of cities and regions. We are beginning to realize that it is possible to estimate the quantities of residential, commercial, industrial and open space use that form a balanced community under different controlling conditions. These facts we use as signals and guide posts in our determination of proper balance for the future, tempering them, of course, with many corollary considerations.

It is not impossible that instead of concentrating great volumes of traffic on superways of abnormal width and expense, with their Chinese wall effect and great pedestrian hazard, the comprehensive development of relatively inexpensive grade separated freeways or parkways would far better solve the problem.

Some of the main causes for the existing unsatisfactory status of the highway problem which has resulted is the unnecessary—

1. Lack of adequate information on origin and destination of traffic;
2. Restrictive legislation;
3. Non-comprehensive attack of the problem;
4. Lack of planning facilities in State Highway Departments.

When one studies the origin and destination of traffic within an area such as the Philadelphia Tri-State Region one finds that it is made up of myriads of individual movements which form themselves into problems at certain spots and along certain lanes because there is no other place to go today.

Actual statistics on where people start from and where they want to go will many times startle one into the realization that the problem may be adequately handled in the future by comprehensive treatment in small doses, with uniform benefits to large areas, better than by concentration of people along few highly developed expensive and rather monumental lines, creating new problems and values with a loss to other areas. It may, for instance, be far wiser, as Major Clarke suggests, to create new freeways and new parkways through inexpensive land, actually thereby increasing land values and spreading the service where it is needed, than to build one grand concreted super double-decked monument that everyone would have to find their way to in order to get about.

One gets used to riding one horse and before long thinks there is no other animal that can touch him. We all have become so disgusted with dirty, badly run hot dog stands and gas stations and with shacks strung along highways that we are tempted to condemn all use of arteries that are not residential, and by residential we are thinking of something quite excellent and expensive. We have called the unkempt hot dog stands and roadside shacks "Ribbon Development" and then we proceed to condemn all ribbon development. Doesn't it really depend on what kind of ribbons we are talking about? Are we willing to say that an artery carrying ten thousand vehicles per day has no right to business use? I think not. What we really mean is that we prefer clean

ribbons, well tied up and grouped, to a scraggly display of dirty ones. Again we really mean to say that we need comprehensive planning,—planning that embraces design, planting, architectural treatment and, above all, common sense. In short, the kind of planning of which Westchester County, New York, is such a fine example.

I am glad to see that Major Clarke has not set down a table of standards. We need less standards and more quantitative information in planning. In highway planning we need the x-ray of fact on origin and destination. Too much weight has been attached to the old volume count at specific intersections. It usually focuses attention on a bad situation, and by planning for relief at that bad spot instead of correcting a fundamental error in the arterial system we make matters worse instead of better.

The super highway collects traffic from a wide area and pours it into another area. Many of the people using it do so because a simple, more direct, parkway or minor way has not been provided in the thoroughfare and parkway system. The super highway makes a good fire break. It probably does not make a good shopping street. Children must beware! But let us not condemn a super highway. It has its place. In the Preliminary Plan for the Philadelphia Tri-State Region we have shown two proposed belt line ways over 60 miles long, each extending across the whole Region. One of these is along the line of flow for national traffic along the Atlantic Seaboard from Maine to Miami. Another connects with the Lincoln Highway to the west. Two major national routes, therefore, meet in the Tri-State Region. These are not super highways in the sense that they are to be great, wide concreted strips, gouging their way through and across the Region. They present a very nice planning problem. The origin and destination traffic count shows us that many of the vehicles that would use certain sections of them are trucks, that a considerable volume of recreational traffic would take advantage of other sections, that people bound to and from work and between this zone here and that zone there wish to use this part of the route. We know that the existing use of land along part of the way is industrial and another area highly residential, and so the problem becomes one of adjusting and segregating and designing the sluiceway to fit facts and conditions, not merely drawing a cross section and applying it to the beltline way as a whole.

The legal aspect of the situation has barely been touched upon.

Therein lies a great field for improvement and research. Should legislation set a lower limit to the width of a highway or an upper limit, or none or both? Is one department, the highway department with a planning and landscape division, the best rig or should the highway department continue to rip open, widen and concrete its plan and the state or county park commission start off on its set scheme regardless of the highway department.

There is need for county and statewide enabling legislation, so that a new department of motor facility, with broad powers, may either replace the existing order or legislation must be found providing for proper creation and coordination of planning facilities, highway, park and parkway construction. Something is distinctly lacking when a highway department is forced to plan for a wide ribbon of concrete with no planting or parked areas through high-class residential property. Something is lacking when they are forced to cut down 100 year old elms through the center of a delightful old village, ruining its charm and individuality, in order to allow twice the through traffic to shake it to pieces.

Mr. Bassett: Major Clarke referred to the "freeway" as something they were going ahead with in Westchester. I would like to make it clear what this rather new word means. If I own a lot of land out in the country in front of which the highway passes, and I want to open a store and connect the store with the highway by a driveway and the town authorities try to stop me, I can insist on my legal right of access to the highway and any court in the country will uphold me. If is different with a park or a parkway, which is nothing but a way through a park. A parkway is a strip of land publicly owned and dedicated to recreation over which the abutting owner has no right of light, air, or access.

Now a freeway is a strip of land publicly owned and dedicated to movement, and is like a parkway in one particular, in that the abutting owner has no right of light, air, or access to it. You can back things up to a freeway but you cannot open ways onto it. No parked cars will clutter it up. Business will not face directly on it. It is for the *free movement* of all kinds of traffic.

In my definition of a parkway I have deliberately excluded the word "movement" as one of the purposes for which the way is dedicated. There is nothing in the nature of a park or the legal title obtained by the municipality which involves a roadway. The land is dedicated only to recreation, although the custom has

grown up to use narrow strips of park land for roadways and call them parkways. Business vehicles and trucks are excluded, but the use of it by pleasure vehicles may be considered a recreational use.

Mr. Nolen: It is very important in establishing new definitions for new kinds of travel routes to consider what we are getting into. I question the necessity of using the very stringent term "no right of light, air, or access" in connection with the freeway. In actual practice the public is denying to the private individual only access and view. I can feel the resentment of the public if we establish parkways and associate with them the stringent legal definition that property owners have no right of light and air in connection with them. Abutting owners often make parkways possible by a free dedication of their property. Not every community and county is in the fortunate position of Westchester County in being able to buy or condemn all the land that it needs for parkways.

Mr. Bassett: Mr. Nolen is right in saying that the abutters are to be allowed all the light and air that is possible from a parkway or freeway, but in making legal definitions which are to be enforced by the courts we might as well be honest about it. Take for instance a playground, which is land dedicated to recreation. A recreation building can be put upon that land and built as high as the zoning ordinances will allow, with the open sides which will multiply the surfaces on which the children can play. Certainly that would cut off the light and air from the surrounding property.

I have been counsel to a considerable extent in cases involving the parkways on Long Island. In my experience not a single dedicator of land has been unaware that he is to be deprived of light, air, and access over these parkways. He knows that no building will be erected on the parkways, to be sure, but he knows also that he can't put a building near the parkway which will have access to it by a driveway.

Mr. Bettman: I think there is some danger in over-formalizing or over-standardizing the use of such terms as "parkways, boulevards, streets, highways, etc." It may have the result of limiting the power of the public authority to differentiate kinds of traffic, classes of access or degrees of access. We know that streets were created for two-way movement, and yet courts have recognized the

validity of one-way streets. Similarly the courts have upheld, in some states at least, the use of boulevards for general traffic. Recently the county attorney in Hamilton County, Ohio, held that assessments could be levied under the county highway statute for what is called a parkway and is a parkway in the sense that it has landscape features. A parkway may mean something a little different in one state than it does in another, or at least the right of access may be somewhat differently interpreted. I think we ought not to get too rigid definitions associated with these words.

Harland Bartholomew, St. Louis, Missouri. There is no greater admirer of the Westchester County Park system than I am, but I realize that the scale of the thing is economically impossible except in a very limited number of places. I wonder to what extent we are justified in planning unlimited expansion on the outskirts of our cities and drawing values away from their centers.

I think we are definitely reaching the period when the economics of city building are going to limit this continued and unlimited spread. If we are going to build more and more of these glorified traffic ways—I do not consider them parkways, because that term it seems to me should be applied rather to the meandering pleasure driveway, and not to a high speed thoroughfare dressed up on the edges—we shall have greater difficulty to defend them on the basis of sound economics. I should like again to emphasize the thought of scale. If we really want to see our plans carried out, we have got to think about where the money is coming from, and that money isn't coming by unlimited spread at the edge at the expense of the center. That procedure is merely robbing Peter to pay Paul, and we won't have any money left to carry out necessary planning improvements, for a complete city. If we hold the area of expansion within more circumscribed limits we add to our values at the center and increase our bonding power.

Walter Blucher, Detroit, Michigan. I think that there is some misunderstanding as to the purpose of our highways in and around Detroit. They are 204 feet in width, 120 feet is given over to vehicular traffic, and 84 feet in the center is to be given over to surface rapid transit. Why surface rapid transit? The answer is that we can build that kind of transit at a saving of about $2,000,000 per mile. Our super-highways are much more than traffic ways, therefore, in the usual sense. You can't have a very beautiful highway if you include rapid transit on it.

There has been a good deal of talk about what is going to happen on the borders of these super-highways; how that land is to be apportioned in building operations. Some feel that it won't be suitable for business use, but that isn't the purpose of the super-highway. We have enough business property in and around Detroit without creating additional business property on these super-highways. It is claimed that the super-highway is hurting the gas station business. When Woodward Avenue was only 100 feet wide a certain gas station that I know of was pumping 1,200 gallons of gas per day, and after the Avenue was widened it pumped only 400 gallons of gas per day. The fact is that the number of gas stations on the highway increased about four or five times.

I want to join in the chorus of praise of the Westchester County Park system. We point to it with about as much pride in Wayne and Oakland Counties as Major Clarke does in Westchester. We hope to have a similar system, but if we are going to have rapid transit and traffic marching on one thoroughfare, we are bound to get a different type of highway than the parkway which is limited to pleasure traffic only. We are not advocating the super-highway as a cure for traffic ills. We don't compare it at all with the Westchester County Parkway system, but we do think that it is the best thing we have been able to evolve for solving our own problem.

S. H. Hare, Kansas City, Missouri. I wonder just how many situations the Westchester County system would fit into. We must realize that the Westchester development is suburban, also that there are several stream valleys leading in the direction of the main lines of traffic, also that land was cheap property because of topographical conditions, lack of development, and lastly that there was in these valleys very little fluctuation of water level, even during flood times.

If we all had $70,000,000 to spend on a park system and if we had the topographical conditions of Westchester County, I am sure we would all try to duplicate that great accomplishment, but there are mighty few places that have the money and the other conditions.

ACQUIRING LAND FOR PUBLIC IMPROVEMENTS

W. C. Bernard, Valuation Consultant, St. Louis, Mo.

Five Methods of Acquisition

The only limitation on the size or character of public improvements in the modern American city seems to be one of finance. Facilities once dreamed of as Utopian luxuries have come to be accepted and expected as necessities of everyday life. This situation has been attributed to various causes. The automobile, education, migration to the cities, the rise in standards due to a continuous national prosperity, the city planning movement, all have played their respective parts in its development. Regardless of its origin or merit, however, this condition is at the present time responsible for at least half of the worries of our City Managers, Common Councils, Comptrollers, Boards of Works, City Engineers and other municipal officers charged with the administration or financing of public improvements.

Along with the demand for better facilities there has grown up a desire to insure by planning those public improvements of a larger magnitude which past experience has indicated will be necessary for future welfare. While this has been particularly true of parks, playgrounds, sewers, streets, and highways, other improvements such as civic centers, schools, and hospitals have come in for their share of consideration. In New York, in anticipation of future needs, the state law has been revised to permit the taking of private property for housing purposes. Most states have already classified municipal airports and landing fields as necessary improvements.

This growing demand for public improvements has necessitated the acquisition of an increasing amount of land for public use. Scarcely a project of any magnitude can be found which does not require some taking of or interference with the use of private

property. For this reason a discussion of the various ways of acquiring property for public use might be of interest, not only to city planners but to those engaged in the administration of the plan as well.

There are five methods by which private property can be legally acquired by the public. These are by dedication, by purchase, by gift, by lease and by condemnation.

Dedication.—The most common application of acquisition by dedication is to be found in the granting of an easement over private property for some particular use, such as a street, highway, alley or sewer right-of-way. Dedications are most easily obtained in the early stages of land subdivision when land cost is low, and when the particular improvement is of obviously greater benefit to the grantor than the use of the land surrendered. Its use should be encouraged. Dedication of all streets, both major and minor, should be required in all future subdivisions, in conformity with the adopted city plan.

Purchase.—For certain purposes, as in the case of school sites, it is sometimes possible to acquire land as economically by direct purchase as by any other method. Through the aid of careful study of future needs as indicated by the trend of the city's growth, such sites can often be acquired in advance of development at a very fair price. One decided advantage of this method of purchase lies in the undisputed right which the city has to re-sell the property at any future time that its value for the particular purpose ceases or becomes impaired. On the other hand, an indiscriminate purchase of property will tie up the city's funds indefinitely, thereby preventing the carrying out of more urgent projects. In the case of street widenings, unless conducted under a law which permits the inclusion of the price of property as acquired as a part of the cost of the project, and unless purchases are made in conformity with some well defined plan and policy, this practice is quite likely to result in chaos and ultimate financial loss to the city.

Gift.—A gift of private property is usually made contingent upon its use for a particular purpose, such as a park, playground, market-

place, public square, court-house, school or hospital. The title obtained by the public may be entailed so that the property will revert to the donor upon failure to use it for the purpose specified, or it may be in fee simple with no restrictions. While grants of land for public use are more common in communities of lower value and lesser intensity of use, it seems possible, with the aid of an educational campaign of requirements, to acquire more property for park or playground use in this manner.

Lease.—One very effective, and at the same time very rarely used, means of acquiring private property for public purposes is through the agency of a lease. In business affairs, leasing is the most common way of insuring a tenure of occupancy. The reason for its lack of popularity in public affairs is attributable chiefly to the failure of the city to make more definite plans for future development. With the aid of a comprehensive city plan, many cities might well afford to acquire by lease, with the privilege to purchase at a later date incorporated, much of the property required for future improvements, at a time when values are low. Such a lease, besides assuring the acquisition of the particular property desired, would at the same time prevent the pyramiding of cost, by precluding during its term the possibility of erection of new buildings on the site.

This method of acquisition, because of its economy and fairness, merits a more widespread use, particularly in those projects in which whole properties are required to be taken. An additional prerequisite to its use, however, is the availability of funds which can be used for this purpose. The ultimate economy of the plan will warrant the expenditure of whatever effort is involved in obtaining the necessary amendment of existing laws to permit the use of certain public funds for this purpose.

Condemnation.—Private property may be acquired for public use in any state through the right of condemnation. This right is inherent in the state and is granted by it to its municipal and quasi-public corporations, counties, and public boards. The only restriction placed upon its use is that the requirements of "due

process of law" be observed. In an endeavor to safeguard the property rights of its citizens, each state has its own peculiar manner of setting out the precise procedure comprehended by the due process clause.

In some states property condemned is acquired in fee; in others the constitution provides for acquisition of an easement for a specific purpose only. This easement might involve the right of surface use plus all air rights, as in the case of streets, parks, civic centers, and airports. On the other hand it may involve only the right of sub-surface use, as in the case of subways, tunnels, and sewers. In particular instances it may involve the acquisition of a restricted surface easement, as in the case of the arcading of a building for sidewalk purposes, reserving to the owner the right of subsurface use, and the right of support for the upper portion of his building. In other instances it might involve the establishment of a building line beyond which no structures may be built in the future, yet permitting the owners to utilize the land so condemned for other purposes not inconsistent with its intended public use.

While the determination of damages under such a restricted taking sometimes becomes a complicated problem, there is no question but that a considerable saving in cost can often be effected through its use. Where the efficacy of the project is not diminished, there is every reason for weighing the damages involved in the taking of a restricted easement against those occasioned by an absolute taking, particularly when dealing with intensively used or specially designed structures on high priced land.

Condemnation Procedure

At least 95 per cent of all properties required for public use are acquired through the right of eminent domain. The proceeding employed, commonly termed "condemnation," is made up of two distinct functions. The first, and most important of these from the point of view of public policy, is the manner of determination of damages to be awarded for properties taken or damaged. The

second is the assessment of special benefits flowing out of the contemplated public improvement. While authority for this right of assessment springs from the taxing power of the state, which has no connection whatever with the power of eminent domain, early practice led to the determination of damages and benefits by the one tribunal appointed by the court. The reason for this probably lies in the fact that, in earlier days, the fixing of damage to the individual whose property was being taken was of primary importance in the eyes of our jurists, while the benefits resulting were of such slight moment as to warrant their determination being tagged on as an added duty of the jury or commission. Regardless of reason, the fact remains that these two operations with nothing in common have become quite closely identified through custom of procedure.

The intricacy of the problems arising in the administration of both operations has reached the point where public policy demands their separation. Fair dealing and the Federal Constitution decree that no man shall be deprived of his property except by due process of law. The state laws and logic, borne out by experience, demand that such special benefits as may be shown shall be assessed in accordance with the accepted principles of special assessment, and be measured by the same standard in every instance. Both these operations cannot possibly be effectively performed by separately appointed commissions working independently on different projects. They might be performed by a permanent commission handling all cases, but the possibility of harm through misfeasance of office by such permanently constituted body is great enough to preclude its use. The answer lies in a complete severance of the two operations, so that the determination of damages can proceed expeditiously and concurrently with the assessment of benefits, each according to the precise manner of procedure legally set up for it.

Such severance should be made the occasion of a revision of the law to meet present-day requirements. On the eminent domain side of the case, one of these requirements is that *specially quali-*

fied freeholders should be appointed as commissioners; another is that both the owners and the city should be given some right of challenge of appointments by the courts of commissioners; another is that the responsibility for expedition of commissioners' actions should devolve upon the court. On the assessment side of the case, the chief requirements are that a bureau of special assessments be established as a branch of the city government; that the files and records of this office be open to the public for inspection at all times; that the office be in charge of an able, responsible, well qualified official; that the option be provided for payment of special assessments in equal annual instalments up to ten in number; that a close co-ordination of duties be established between this office and the fiscal division of the city; and, most important of all, that a practicable plan be evolved which will provide adequate funds for the financing of an improvement through to its physical completion, without impairing the city's credit.

For the purposes of illustration of the above recommendations concerning eminent domain a detailed draft of a model condemnation law, which will provide the desired refinements of procedure, has been set up and is attached hereto. This draft is patterned largely after the St. Louis Charter as it is proposed to be changed through amendments drawn and submitted by the Honorable Julius T. Muench, City Counselor, and G. William Senn, Condemnation Associate City Counselor. The notable differences in the two are the provision for selection of specially qualified commissioners from a permanent venire, the fixing of commissioners' fees and time of appointment by the Judge in advance, and the severance of benefit assessment from the duties of commissioners, as provided in the model law suggested.

A Model Condemnation Law

Section 1. Condemnation of or damage to private property, real or personal, or any easement or use therein, or restriction of the use thereof, for public use, shall be effected as herein provided and as may be further provided by ordinance not inconsistent with this law. Upon the Board of

Aldermen providing by ordinance, recommended by the Board of Public Works, (1) for the appropriation of any private property or any easement, use, right or interest therein, or restriction of the use thereof, for any public use, or (2) for any public improvement or work which will damage private property, the City Counselor, in the name of the City, shall apply promptly, and in no event later than three months after such ordinance is effective, to the Circuit Court of that judicial circuit, or to any Judge thereof in vacation, by petition setting forth the general nature of the public use for which the property is to be appropriated or damaged, a description of the property and the estate or interest therein, or restriction of the use thereof, in each instance, which the City seeks to appropriate, damage or impose, and praying the appointment of three disinterested commissioners to assess damages as hereinafter provided, to which petition the owners shall be made defendants by name, if known, and if unknown, by describing their claims and interests in such property and how derived by them. If the action affects the property of persons under guardianship, the guardians shall be made defendants; if an estate or interest less than a fee, the persons having the next vested estate in remainder or reversion shall be made defendants or their interests will not be bound; but only persons in actual possession of and claiming title or who have record title appearing upon the proper records of the City to property affected, need be made defendants. Immediately following the approval of such condemnation ordinance, there shall be filed and recorded in the office of the recorder of deeds a notice stating the general nature of the proposed public use, designating the boundaries of the district in which property is proposed to be taken or damaged, or the use thereof restricted for such public use, together with the number of the ordinance and the date of the approval thereof, and, upon the institution of the condemnation proceeding directed by said ordinance, it shall be sufficient to join as defendants the persons who were owners of or interested in such property, as herein contemplated, at the time of the filing of such notice for record, and the purchasers of any such property or any interest therein, after the filing of such notice, shall be bound by all proceedings in such condemnation proceeding; provided that any person acquiring any such property or interest therein after the filing of such notice may, upon proper application, be made a party defendant in such proceeding.

Section 2. Upon the filing of the petition, summons shall be issued, giving the defendants at least ten days' notice of the hearing on the petition; and the city marshal shall serve such summons and make return as required by law for service and return of writs of summons. If the name or residence of any owner be unknown, or if any owner does not reside in the state, or cannot be found within the state, a notice giving the general nature of the petition, with a description of the property of such unknown or non-resident owners, or owners who cannot be found within the state, and the day fixed for the hearing, shall be published once each week for

four consecutive weeks, the last publication to be at least ten days before the hearing, in the newspaper publishing at the time the notices of said Court.

SECTION 3. The Court or a Judge thereof in vacation, when notice has been given as herein provided, shall, upon the application of any party in interest, fix a date, not less than three nor more than ten days after the date of such application, for the impaneling of a commission to assess the damages which the owners may severally sustain by the proposed taking, damaging or restriction of property. At the time appointed there shall be presented by the Court for examination upon their *voir dire* seven disinterested freeholders, residents of the City for five years next before such date.

The commissioners to be so presented shall be chosen by lot from a qualified venire previously appointed by the Circuit Court of that judicial district, and consisting of three appointees named by each judge, one of whom shall be familiar with real estate values and had at least 5 years' experience in the real estate business, one of whom shall be familiar with current costs and methods of construction and had at least 5 years' experience as an architect, engineer, or contractor, and a third person who shall have had at least 5 years of business experience in the city. Upon application for appointment of commissioners, the Court shall choose by lot from this venire a list of seven names, at least two of which shall be taken from each of the above-named classifications. No commissioners shall be eligible for selection on two or more cases concurrently. Should the number of available appointees fall below seven, by reason of death, illness, interest, bias, resignation, removal, or because of active duty as a commissioner in another case, the Court shall choose by lot the necessary number of names of such classification as may be required to fill the panel, from a second venire of the same number, appointed at the same time, and having the same qualifications as the first, but subject to selection only under these circumstances. Should the aggregate available number of appointees of both venire fall below seven, upon the filing of a petition praying the appointment of a commission, the Court shall convene the judges of that judicial district for the purpose of appointing a special venire of a like number and like qualifications as those previously appointed. From this venire the Court shall choose by lot the necessary number of names of such classification as may be required to fill the panel. Upon selection of commissioners in the case at bar, all members of this special venire, except those selected as commissioners in the case, shall be discharged and relieved of further duty. First and second veniremen shall be appointed for a period of two years each, and their appointments so regulated that approximately one-fourth of said appointments shall expire each half year, but such expiration shall in no way affect the duties or actions of any commissioner who is actively engaged in the determination of damages in any case in which he has been previously selected and certified as a commissioner.

Any party in interest shall have the right to examine the persons so presented, upon their oath, and thereupon the city, as plaintiff, and the defendants, collectively, shall each challenge two of the persons so presented, and the remaining three shall constitute the commission for the assessment of damages. The persons so selected shall immediately be sworn by the court, or a judge or clerk thereof, to faithfully and diligently perform their duties as such commissioners; provided that the court or judge shall exclude from the consideration of such commissioners the assessment of all damages for the trial of which a jury has been duly demanded.

Upon the selection of commissioners, the Court shall fix their compensation, set the time and place of their first meeting, and limit the time of their appointment, which shall not in any case exceed ninety days.

Any party entitled to and desiring trial by jury of his rights to compensation shall file in the cause, before the appointment of the commissioners, written demand therefor, including therein a description of his property to be taken or damaged, and failure so to do shall be a waiver of the right of trial by jury. Upon such demand being filed the court shall award a jury trial and proceed therewith as in trials of civil actions; but before final judgment shall be rendered on the verdict of the jury and before the commissioners shall make their report, the court shall certify the verdict of the jury to the commissioners and they shall include in their report, with their separate findings, the damages as assessed by the jury, reciting the fact. The claims for damages of all parties demanding jury trial in any action under this article shall be heard at the same time before one jury. The commissioners shall assess damages for property appropriated or damaged for the trial of which a jury is not demanded as aforesaid.

Section 4. It shall be the duty of the commissioners, except as herein otherwise provided, in the condemnation or the damaging of property for highways, streets, boulevards, parkways, alleys, wharves, sewers, markets, public squares and parks, or widening or enlarging the same, or in the changing of grade of streets or other public ways or the making of other public work or improvements, to ascertain the value of the property proposed to be taken and the actual damage done to private property, but no allowance shall be made for improvements begun on property after service of summons on or notice by publication to the owner thereof as herein provided; and the public work, improvement or use contemplated shall not be considered in determining the value of property taken.

Section 5. The commissioners shall, within ten days from the date of their appointment, view the property to be taken or damaged, and shall immediately publish in said newspaper for ten days before beginning their hearings a notice of the time and place at which they will hold hearings for the assessment of such damages. Upon the day fixed in such notice, and thereafter, without undue delay, until their work is completed, the commissioners shall hear the evidence submitted by the parties interested,

and assess damages as of the date said ordinance became effective, or, as to any property added by any amendment to such ordinance, as of the date upon which such amendment became effective; and make a report, in which at least two commissioners shall concur, of such assessment, in writing, and under oath, to the circuit court. In such report the compensation allowed to each owner shall be separately stated. Such report shall be filed within the limit of time fixed by the Court upon appointment of commissioners, unless an extension of time is granted by the Court for cause.

Section 6. At any time after the commissioners file their report the City may pay into court the amount of damages assessed, and thereupon it shall be entitled to take possession of or damage the property, assuming the lien of all general taxes not then payable on property actually appropriated.

Section 7. Within twenty days from the filing of the commissioners' report, exceptions in writing thereto may be filed by any party interested, and upon such exceptions the Court shall review the report and may order, on cause shown, a new assessment by other commissioners, or make such other orders thereon as justice may require. The Court shall hear and dispose of such exceptions with all reasonable speed.

Section 8. The Court upon approving the commissioners' report shall render final judgment thereon, reciting the report and adjudging that the City have and hold the property petitioned for, describing the same, for the purposes specified, upon payment of the damages. The Clerk shall forthwith make and deliver a certified copy of such judgment to the Comptroller, who shall record the same in a book kept and conveniently indexed for that purpose. The Comptroller may, forthwith, and if no appeal be taken from such final judgment, he shall, at the expiration of the time for such appeal, forward a copy of the judgment to the Common Council; and within sixty days after the receipt of such copy, unless an appeal is pending, and in no event later than sixty days after disposition of all appeals, the Common Council shall make an appropriation for the payment out of the City Treasury of the damages assessed in favor of each party entitled thereto as determined by such final judgment, and the City Treasurer, on warrant of the Comptroller, shall cause payment to be made to the several parties entitled or into court for their use, as the case may require.

Should the Common Council fail to make such an appropriation the judgment for damages shall be collected by the owners concerned as other judgments against the City are collected.

Should any such final judgment be reversed on appeal and a new assessment be ordered, the City or any defendant shall have judgment for any excess due by reason of payment having been made under a prior final judgment in the cause.

Section 9. The losing party shall pay the costs caused by litigation sub-

sequent to the filing of the commissioners' report and the City shall pay all other costs, including the compensation of the Commissioners, which shall be the amount fixed at the time of their appointment, unless otherwise ordered by the Court for good cause shown.

SPECIAL ASSESSMENT FOR STREET WIDENING

L. W. Hoelscher, Planning Engineer, Fort Worth, Texas

Special assessments are based on the amount of special benefit from the improvement. The assessments should be levied against such property as is benefited and in proportion to the benefit rather than in accordance with the value, area or frontage of the property assessed. In no case should the assessment exceed the benefit, and it is probably a safe rule to assess not more than one-half the benefit. The property owner is entitled to some profit on the transaction and benefits are only estimates at best and may not be realized for years.

Agencies for Levying Assessment

In smaller cities the condemnation commission working with an agent of the city is a satisfactory agency for levying the assessment. This method has the advantage of expert real estate knowledge and if different men be used on the various projects, it will serve as a means of educating the real estate fraternity in the process of special assessment. Large cities carrying on a continuous program of widening should establish permanent bureaus to determine assessments.

Determination of Assessment Areas

The assessment district should be fixed by the limits of the spread of special benefits. The area may be a half mile wide or it may be restricted to the frontage of the widened street. This involves a careful determination of the various elements of real estate value. For instance in the case of commercial property, the first element is the utility of the land as a market place. A more commodious and inviting thoroughfare produces more customers. Advertising utility and accessibility are two other im-

portant elements. A fourth element is salability, which is influenced by increased demand and partly by the attraction of buyers to new developments. The widened thoroughfare affects also general neighborhood values, even of properties on other streets. The limits of the assessment area or benefit district may often be determined by parallel or competing influences. For instance, a portion of the frontage of a widened street may be entirely residential in character and therefore less likely to be increased in value by the greater volume of traffic.

In apartment house districts advertising value, accessibility, reflected value and greater salability are the principal elements.

The assessment area must therefore be determined by the consideration of the probable effect of the improvement on property in the vicinity, and the limits determined by answering the question—"Will this improvement especially increase the value of this particular property?" The assessment district for the opening and widening of Henderson Street in Fort Worth will be used as an example.

At the north end of the project, the area extends 450 feet west and 850 feet east of the improvement. The thoroughfare will extend north and south through the western edge of the greater major business district. Therefore, the principal benefit beyond the improvement will be along those streets leading from the business district to Henderson Street. North of Fifth Street, the district assessed is isolated and has been depreciating for a number of years. The area west of the thoroughfare will therefore be made more accessible and will also acquire increased reflected or neighborhood value. South of Fifth Street the area to the west of Henderson Street will take on very little special value as a result of the widening. Along the south part of the improvement the district is restricted to the frontage proper, except on Pennsylvania Avenue, a wide distributor street, where the district extends principally to the west. A peculiarity in this assessment district is that it skips about 700 feet along Fifth Avenue and Henderson Street and picks up the corners of Magnolia—a business street.

The frontage between is residential in character and therefore less likely to benefit by increased traffic. The corners of Magnolia derive value from both streets and will undoubtedly be more prominent and more valuable.

Specific Assessments

The determination of specific assessments follows the outlining of the district. In order to logically determine benefits it is necessary to arrive at two conclusions: First, the normal fair value of each piece of property before improvement and, second, the probable fair value of the property after the widening. The procedure in Fort Worth is to prepare a set of maps covering the assessment area (scale 1 inch equals 100 feet) and to show on each piece of property the 100% value of the land as determined by the tax equalization board. This is then compared with the values set by the condemnation commission on the land damaged by the widening and also with recent sales within the area. Another set of maps is then marked to show the estimated fair value of each piece of land in the proposed district. The next step is the determination of the probable increase in value due to the improvement which is determined in percentage and shown on the last described set of maps. A third set of maps is used to show the estimated increase in value on each piece of land as determined by the fair value of the percentage of probable increase. These are then worked over to allow for special conditions or errors. The final result is the estimated benefit to each piece of land in the proposed assessment area. The total of all the individual benefits is the estimated total benefit of the project. The determination of assessments is therefore merely a matter of proportioning total assessments to total benefits. In the case of Henderson Street, this was about 1 to 5. In other words, each assessment was about one-fifth of the estimated benefit.

Specific Problems of Procedure

1. *Variation in Assessment According to Proximity.*—Although it is fairly easy to determine the reasonable limits of the benefited

area and not impossible to reach a fair idea of the enhancement on the frontage proper, the variation in benefits is difficult to determine. Where property is of fairly uniform value, the variation in benefit seems to be according to a square root curve. In other words, if a diagram be drawn with vertical distances equal to the square root of each number and the horizontal scale natural, a straight line drawn between the two extremes as plotted on such a diagram would determine the intermediate benefits. Where there is great difference in the value of the property this rule will not hold. For example, in the assessment district for the south Main Street widening in Fort Worth, property on the street 100 feet north of the widened section was assessed approximately $5.00 per front foot and property 1,300 feet north of the widened section was assessed approximately $2.50 per front foot; while property 3,000 feet north of the widening was assessed approximately $5.00 per front foot, or practically the same as the property only 100 feet from the widening. The property 3,000 feet distant was of a much higher value, and while it was deemed to have been benefited but 4% of its previous value, whereas the property 100 feet distant was adjudged to have been benefited 75% of its original value, the results were nearly equal. Apparently the only general rule is that the assessments should be proportional to the benefits.

2. *Varying Depths.*—The case of varying depths along a street offers some chance for difference of opinion. For example, the south part of Henderson Street, where the fronting lots vary from 72 feet to 190 feet in depth. Should a uniform depth be assessed or should the frontage be assessed according to depth? If the matter of benefits be the deciding factor, as it should, there is no doubt that the assessments should be varied with the depth according to some recognized depth scale. According to the Cleveland scale a lot 150 feet deep would be assessed 1.15 times as much as a lot 100 feet deep.

3. *Corners.*—How much additional assessment should be levied against corners? This is seemingly an unanswerable question. It may vary from 10% to 100% or more depending on special condi-

tions. However, generally speaking, where the assessments extend along an intersecting street, the corner 50 feet should bear from 10% to 15% more than the basic assessment. It is doubtful if any satisfactory rule can be evolved to deal with corners. In each case the matter of enhanced value must be determined.

4. *Varying Size Corners.*—Where one corner on the improved thoroughfare is, say, 100 feet square, whereas the opposite corner is divided between two owners, one having 100 feet along the improved thoroughfare and 50 feet along the intersecting street, should the total assessment on the two smaller lots be equal to the assessment against the consolidated corner? Generally speaking, the assessment on the two lots should equal that on the one large lot. But there may be exceptions, as will be noted later. If the frontage value of the widened thoroughfare be greater than that of the intersecting street, and if the Zangerly or Cleveland real estate depth scale be used as a basis, the corner 50 feet on the intersecting street by 100 feet on the widened street should bear 72.5% and the inside 50 feet on the intersecting street the remaining 27.5% of the total assessment made against the 100 x 100 lot. If, however, the widened street is less valuable than the intersecting street, the corner lot (100 feet on the widened thoroughfare by 50 feet on the intersecting street) should bear ⅞ of the assessment and the inside 50 feet should bear ⅛, if the said real estate scale be adhered to. However in a similar actual case where the intersecting street was the more valuable, the corner 50 x 100 was assessed ¾ and the inside lot ⅛, making a total of ⅞ as much as the consolidated area across the street. This seems reasonable, because the value on the intersecting street was greater than the street assessed and therefore there was no probability of consolidation in order to face the assessed street.

5. *Overlapping Assessments.*—The matter of actual or probable overlapping of special assessments is one of serious difficulty. It is impossible to prevent such overlapping in some cases, but in many cases it is possible to so determine the district as to obviate this evil. If this can reasonably be done it will save much trouble

and ill will. If not, the second or possibly third assessment should be tempered to the shorn lamb.

6. *Exceptional Improvements or Exceptional Use of Property.*— In practically every assessment district there will be some pieces of property, which because of their use, ownership or improvement, will seem not susceptible to enhancement. Consider property used by a church, school, hospital or other semi-public institution. It will be argued that such property is unaffected and can not or will not realize enhanced value because it is not for sale and not a commercial enterprise. While there is undoubtedly some basis for such argument, the fact remains that the land value is increased, accessibility and surroundings bettered, and in the case of churches, clubs, etc., the site is rendered more conspicuous. Therefore, this class of use should not be excepted from assessment. The case of peculiar improvements is much harder to settle. For example, a lot surmounted by a large home in a district becoming semi-commercial in use. The value of the building is such that it cannot be destroyed for many years and the effect of the improvement is the hastening of the change in character of the street. In such a case there is certainly a question of actual benefit. In the case of ordinary residences, however, the benefit is delayed but none the less actual and real. The assessment represents an investment to be cashed at a later date.

Leases

There should either be a clause in the lease permitting an increase in the rent consistent with the assessment, or there should be a provision in the law to permit the levying of assessment on the leaseholder.

Payment of Assessment

Payments in cash of the entire assessment are unwise because they work undue hardship.

The sale of special assessment liens to financial houses is the usual method, but is objectionable because the interest rate is high,

and because there are always special circumstances which might be taken care of by the city but could not be handled in any arrangement with a financial house.

A revolving fund set up by the city for the purchase of assessment liens is a satisfactory method, as it permits the borrowing of money at the lowest possible rate of interest and lightens the burden on the property owner. Its one disadvantage is that the surplus cash borrowed by the city cannot usually be reloaned advantageously. This results in an excess interest payment by the city.

The sale of debentures with special assessment warrants as collateral is the promising method adopted in Fort Worth. The debentures may be issued in amount equal to 90 per cent. of the value of the lien. Interest and sinking fund are provided from the payments made on the liens. The city guarantees the payment of the debentures but they are not considered part of the bonded indebtedness of the city. It is expected that this method will produce cash at a lower rate than the sale of individual assessment liens. The length of time allowed for the total payment of assessments should vary with the amount of the assessment and the nature of the improvement, but should seldom exceed 15 years.

What Costs Should Be Assessed

In Fort Worth all of the right-of-way cost may be assessed against any and all properties specially benefited, but paving may be assessed against abutting property only and the intersection cost is borne by the city. This is illogical, as all of these elements are parts of the total improvement. Under an ideal system, the land cost, the paving, the drainage, and even the cost of bridges and grade separations should form the total improvement cost for assessment purposes.

Interesting Points of Actual Procedure

Chicago, Illinois—Assessments are determined by a board consisting of two disinterested, competent persons and the superintendent of special assessments. Payments are collected in full

before actual acquisition of the right of way. Improvement costs may be consolidated with right of way costs, but this is seldom done. Recent amendment provides for installment payments.

Des Moines, Iowa—Assessments determined by Assessment Clerk working with an Advisory Committee. Assessments levied by the City Council but are subject to revision by the District Court. Payments spread over ten years and collected by County Treasurer. Improvement bonds are issued by the County to the City, which in turn sells same to obtain cash to proceed with project. City assesses 110% of cost, returning any money remaining at the end of ten years. Assessment limited to 25% of the assessed valuation of land.

Minneapolis, Minnesota—Proceeds under Elwell Law of 1911, which provides that city may levy cost of right of way and improvement upon land specially benefited and may provide for the funding of the cost by the sale of special bonds to be retired from the assessments. Assessments spread five to twenty years. Committee of five appointed by City Council determines assessment. Collections by County Treasurer.

Rochester, New York—Assessments payable over a period of two to ten years.

Los Angeles, California—Assessments payable ten to thirty years.

Memphis, Tennessee—City pays one-fourth and property owners three-fourths of the total cost of the project including right of way, excavation, paving and drainage. Assessments made according to front footage abutting on the improvement. Five years maximum time for payment. Assessments limited to two-thirds of the assessed valuation of the land.

St. Louis, Missouri—Assessment district fixed by the condemnation Commission. Payments may be deferred, maximum of ten years. Assessment certificates are not negotiable.

Cincinnati, Ohio—Assessments limited to 50% of total cost. Total individual assessments during a five-year period may not exceed one-third of the value of the land after improvement.

Deferred payments, financed by City. Assessments collected as part of city taxes.

Summary

Special assessments should be determined by an assessment agent working with the condemnation Commission or by a special assessment bureau.

Assessments should be made proportional to benefits and not necessarily to value, area or frontage.

The assessment district should be fixed by the limits of the spread of special benefits or by the extent of a parallel district.

Benefits on intersecting streets will decrease according to a square root scale if the values along the street are constant. If not constant, this rule will not hold.

On streets of uniform value and use, the corners 50 feet will be benefited 10% to 15% more than the corresponding inside lots.

Two lots forming a corner site, one of which sides to the improved street, will attain as much total benefit as the consolidated site if the frontage of the improved street be more valuable than the frontage of the intersecting street. If the reverse be true, the two lots will obtain seven-eighths as much benefit as a consolidated site.

Lots of varying depths are benefited in accordance with the varying value of such depths. Some standard real estate scale should be used to measure this difference.

Special use of property should not influence assessments.

Special improvements may mitigate benefits under peculiar circumstances.

Provision should be made in the law for the assessment of leases. Failing this, the owner should bear the assessment regardless of lease.

Overlapping assessments should be guarded against insofar as possible and adjusted where unavoidable.

Either a revolving fund or the sale of debentures with special assessment warrants as collateral is a satisfactory method of

financing. Direct sale of special assessment warrants is adequate in states without homestead laws, although a higher interest rate penalizes the property owners. Cash payment is an undue and unwarranted hardship.

Length of time allowed for payment of assessments should vary with amount of assessment and nature of improvement, but should seldom exceed fifteen to twenty years.

Total cost of right of way and paving and in some cases structures should be lumped and assessed at one time. A model act might well be formulated to provide for street improvement procedure which would enable cities to apportion all improvements according to benefits instead of according to some rigid rule of thumb.

DISCUSSION

E. E. Parker, Wisconsin: The extension of University Avenue in the City of Madison, Wisconsin, is a project that illustrates the importance of the subjects just presented. It involves the extension of a street 100 feet wide through six city blocks, a distance of 1,900 feet. The new extension would intersect four main and two cross-town streets and would require the purchase or condemnation of 115 separate parcels of property.

The first official recommendation of the project was made in 1910 by John Nolen in his report, "Madison, a Model City," although the matter had been uppermost in the minds of a large group of citizens for ten years.

Harland Bartholomew in 1921 in his report on a Major Street Plan again stressed the necessity of carrying out the project.

As early as 1908 a group of men took options on about 75% of the parcels needed for the extension, but failure to obtain satisfactory prices on the remaining 25% caused the abandonment of the plan.

In 1925, the Common Council of the City, after a thorough report from a Committee, adopted resolutions for a bond issue which would finance the purchase of the lands necessary for the extension and for a width of 115 feet on each side of the proposed street. The bond issue, however, was defeated in the election of 1926 by a vote of 8,431 to 4,916.

A study of the financial aspect of the project was given in a report to the Common Council, an analysis of which shows that the

total bond issue required for the complete project would be $490,000 and at the end of six years $140,000 would be available for the retirement of bonds from the sale of excess land. The net amount of long term bonds actually required would be $350,000. It was further estimated that, based on a 50% increase in valuation of new lots to be platted over present appraised values, the net cost of the land alone required for the extension would be $263,780.

In March, 1929, the city entered into a contract with Mr. T. N. Wynne, of Indianapolis, for the carrying out of the project based on the following offer, which is so unique that I am quoting it:

To the Mayor and Common Council,
City of Madison, Wisconsin

Gentlemen:

I beg leave to make to the City of Madison the following offer, to wit:

1. I will acquire by purchase or otherwise all of the lands necessary for the extension of University Avenue from Gorham Street to West Washington Avenue, at its present width, and such lands as are necessary to lay out alleys near to and adjacent to the proposed extension of University Avenue, and will dedicate the same to the public for street purposes.

2. The City of Madison at its own cost, to improve in the best and most modern way all streets and alleys so dedicated by me as shown by the plans submitted herewith, such improvement to include the pavement of all said alleys, and, in the case of University Avenue, pavement, walks, water mains, sewer mains and laterals, storm sewers, conduits, if any, ornamental lights and street lights, and to do such landscaping as in their opinion is desirable, and to arrange with the proper persons and corporations for the installation of all gas mains and laterals. It is understood that the agreement on the part of the city to install pavements, walks, water mains, sewers, and laterals, storm sewers, conduits, if any, ornamental lights and street lights, and to do such landscaping as in their opinion is desirable, is an agreement that none of the lands included in the plans submitted herewith shall be subject to a special assessment for the original installation of said improvements, but that this agreement shall not be understood to exempt said lands from any general city tax or assessment for any improvements subsequent to the original installation above mentioned.

3. In making said improvements no poles or standards shall be used or permitted except standards supporting ornamental lights and trolley poles, if any.

4. The City to furnish without cost to me a triangular piece of land off of the Washington School grounds which is necessary to lay out said proposed extension of University Avenue, which triangular piece is to be dedicated for street purposes. The City to give me an option to purchase the Washington School grounds at a price to be determined by an appraisal by the Madison Real Estate Board, which appraisal is to be at present market value and to be made within 30 days from the date of the acceptance of this offer by you; said lands to be conveyed to me or my assigns when and if said lands are abandoned for school purposes, it being understood that any new school to be hereafter built will not be erected on the present Washington School site, at which time payment therefore will be made by me or my assigns.

5. Within 60 days of the acceptance of this offer by the Common Council I am to furnish to the Common Council a detailed financial scheme showing how the purchase of said lands is to be financed, and will furnish the said Council with such guarantee of the faithful performance of this agreement as the Council shall require, or as may be mutually agreed upon, and shall from time to time, as the Council or its agents may require, furnish detailed reports of the progress of the work, including all payments made by me under this agreement.

6. If it is impossible for me to acquire by purchase any lands necessary for the laying out of the University Avenue Extension or the alleys necessary thereto, the City to acquire said lands by condemnation, and I am to pay to the City the amount finally determined as the purchase price for such lands so condemned.

7. The entire cost of acquiring the lands necessary for such extension, and with the exception of the triangular piece off the Washington School grounds as above set forth to be borne by me.

8. The City is to proceed with the work of laying out said University Avenue extension and making the improvement thereon as above set forth promptly upon the removal of buildings from the lands to be used for said extension, and to proceed with such improvements as rapidly as possible to that the Avenue and the improvements thereon may be completed at the earliest possible date.

(Signed) Thomas N. Wynne.

The following is an estimate of the cost of the work in accordance with the Wynne contract:

Grading and Paving	$102,948.00
Storm Sewers	6,016.00
Sanitary Sewers	18,270.00
Water Mains	12,870.00
Ornamental Lighting	15,939.00
Sidewalks	8,218.00
Alleys	14,945.00
Traffic Signals and Street Signs	2,600.00
	$181,806.00
Engineering and Contingencies 10%	18,180.60
	$199,986.60

Under the Wynne contract, the city would acquire land worth approximately $900,000.00 for street and alley purposes, and would be required to make an expenditure of only $200,000.00—a proposition too one-sided.

It is doubtful whether the extension will be made under the present agreement, although Mr. Wynne has not definitely given up hope of carrying the project through.

The extension of University Avenue is a vital item in the solution of the traffic problem of Madison, and in my opinion will eventually be carried to completion, possibly in sections but eventually in its entirety. Because of probable increase in land values, the sooner the project is carried through the less strain it will be on the finances of the city.

The method of financing will be by a combination of special assessments against the abutting property and such other property as receives a special benefit from the extension, together with a contribution by the city as a whole.

The city's contribution is justified because the improvement will benefit the movement of all traffic within the city, especially the through traffic originating outside of the city and using the State Trunk Highways.

A. L. Vedder, Rochester, N. Y.: I think Mr. Bernard left out one method of acquiring land under eminent domain proceedings which is used in many states and also by the federal government. It consists in filing a map which shows land to be taken and serving notice on all owners. Settlement is made either through private negotiations or by a board of claims. By special legislation the City of Rochester is allowed to file a map and immediately take

over the land. Claim for damage can be made within a year. If the claim is not settled, the owner has the right to have a commission appointed to appraise the value.

In New York State there is a complete separation between the award of damages for land taking and the levying of special benefits resulting from the improvement. The commission which awards damages must under our law appraise the land before and after the improvement is made. The difference in these appraisals is the amount that the city must pay the owner. Assessments are levied by a municipal board or officer, practice varying in different cities. It has been the custom in Rochester in fixing the damages for the taking of land which is, let us say, worth $10,000, for the city to present evidence that the property was worth $8,000 and the owner that the property was worth $20,000. The board usually splits the difference and awards $14,000.

We have tried to avoid this loss to the city by having appraisals made by the real estate board. In Rochester this board is a pretty close union and in the last few cases of condemnation the awards were only about $100 above the appraisal of the real estate board.

Donald M. Baker, Los Angeles, Calif.: Los Angeles is in the midst of a very extensive campaign of public improvement. In the last five or six years we have spent over $100,000,000 and will undoubtedly spend a total of $300,000,000 to $400,000,000 before our present plans are completed. Much thought has consequently been given to the method of financing these improvements and our planning commission have had many discussions of this subject.

We have three ways of levying assessments for public improvements; by frontage, by district and by zones. We use the frontage method to assess the cost, for instance, of all manner of street paving, street lighting, etc. We use the flat assessment throughout a district for such matters as storm drains. The zone method is not extensively used, but we have the right to divide the entire benefited district into zones, each zone paying a certain percentage of the total cost, the zone immediately fronting on the improvement paying, of course, the highest per cent, in some cases as much as fifty per cent.

In levying the assessment for the cost of improving major traffic arteries we have used the district assessment together with some contribution from the city as a whole. My own belief is that assessments for major arteries should be split three ways. The automobile user should pay through a gas tax, the city as a whole should

pay either out of general taxes or a bond issue, and specially benefited property should pay by a district assessment.

We have found that in a great many cases these major improvements do not specially benefit abutting property. Every week we have zoning cases where property owners plead excessive assessments as the reason for their petitions for changing their single family residential districts to apartment house districts. They make no effort to show any justification for a change except the assessment. Even if we should grant their petitions and reclassify or make a variance, the property owner would not be able to put the property to the use he proposes.

Harland Bartholomew, St. Louis, Mo.: All our fundamental laws governing the acquisition of property are inadequate, and the next few years must bring great improvements in these laws. There are certain principles which I should like to outline.

First, I believe there is a danger in any fixed rule such as, for instance, that in Ohio which compels the city to pay 50% of the cost of any improvement project. This almost automatically eliminates the possibility of extensive improvement projects. In St. Louis, on the other hand, the matter is left without determination as to the city's share and without any such limit as to the area of assessment and is fixed separately in each individual case. The last summary of completed projects under our major street plan showed that the city's share averaged 12.8%.

There are two other very important essentials. First, the fairest possible determination of damage and the distribution of the cost; second, the most expeditious procedure. With respect to the determination of damages, I agree with Mr. Bernard that this matter should be kept separate from the levying of assessment even though one agency does both. Present practices give this function to several kinds of agencies. Almost every city has its own peculiar practice. In some cases juries, in others a special commission, considers each case, in others a permanent commission considers all cases, in others a court presided over by a single justice devotes its entire time to this kind of work, and in still others it is done by a special city department. I believe that this work is essentially judicial in nature and consequently that the last method cited is not a proper procedure.

I favor a permanent court as a method which will bring about the most satisfactory results, because this method will more surely bring the expert knowledge which cannot be had in the case of a

jury and is possible only in a limited degree in the case of special commissions. As has already been said, the matter of appraisal is very important and a real estate board with a good appraisal committee at the service either of the city or property owners can render invaluable help.

With respect to the levying of assessments, I believe that this is not a judicial procedure. Most cities have a department for doing this kind of work and I rather think that this is the wisest procedure. It is certainly more expeditious than the appointing of a special board to review the case, and the permanence of the department guarantees experience and special knowledge. Special assessment is, of course, one form of taxation, and we can never hope to make any perfect and final adjustment of it any more than we have a perfect solution of the taxation problem. We can, however, gradually perfect our processes.

To illustrate the inadequacy of our methods of financing great improvements, let me instance our experience in St. Louis. We provided a revolving fund of two and one-half million dollars for the purpose of taking immediate title in contested cases so that work could be completed at once. We paid about two million dollars into court in the Olive Street widening case. The day after the payment an attorney who makes a specialty of filing suits against the city in cases of this kind started a procedure which he has managed to keep in court now for over four years and has tied up two million dollars of our total revolving fund. The great trouble in all cases involving the taking of land by the municipality is that owners think they can get something for nothing just because the city is in the market for land. If we could only lift these cases out of the realm of litigation and put them into the realm of community projects we could reduce tremendously many of the present evils. On our Washington Avenue project community feeling was aroused and a prominent group of citizens conferred with the three property owners and their attorneys who had filed exceptions to the awards, with the result that their exceptions were withdrawn and the project was carried out expeditiously.

Our laws and practices may be good as to the securing of fair awards and bad as to expeditious procedure. They may be good in both respects and fall down on the method of financing.

I believe we need in this conference a special division or section corresponding somewhat to Mr. Bassett's zoning round table which will enlarge our experience concerning what various cities are doing in the matter of land acquisition.

THE ADMINISTRATION OF THE ZONING ORDINANCE

W. W. Grant, Jr., Chairman, Denver Zoning Board of Adjustment

It seems to me that the first thing that is necessary with reference to any ordinance—or any board that undertakes to administer it—not only with regard to zoning but with regard to anything else, is elasticity. You have got to have a certain amount of discretion in the board, and you have got to find the basis for that in the ordinance. At times, the foundation in the ordinance is somewhat light, and the discretion exercised is somewhat large, but as long as you have something on which you can get a toe-hold, the ultimate action of the board, if reasonable, isn't apt to meet with a great deal of criticism. We find that is a capital safety valve in any situation we are called upon to meet. We call it adherence to general principles.

I want to differentiate general principles from a general rule. It has been a general principle with us for the last ten days that you can't put Tom Thumb golf courses in residential districts, having been inundated by a flood of applications for that sort of thing. On the other hand, there is a general principle of variation and we have applied that with reference to large tracts of land where people want to learn to drive a golf ball. I don't know how many of you are golfers, but any man who has ever played golf and seen a straight shot knows that among the inalienable rights of an individual in the Declaration of Independence is the right to drive a golf ball. We realized that and have made an exception. Where we have large tracts of land, twenty or thirty acres, we have permitted people to drive balls.

So often we encounter this sort of a situation. Some well meaning citizen comes and says, "The law says so-and-so, and that is the *rule*." If we proceeded to enforce the zoning ordinance with

the literalness that that statement implies and that sometimes is involved in the words of the ordinance itself, I think you would see a repeal of the zoning ordinance in short order. That is your general rule. Your general principle is that you should follow the rule of reason with reference to the spirit of the law.

We have followed the principle that every case should be decided according to its own facts, and we will not permit anyone, either a lawyer or a layman, to come to us and say, "Over in north Denver you permitted this sort of thing and now in south Denver you won't let us do it." Our invariable response is that every case that comes before the board is decided according to its own peculiar facts and circumstances, and we refuse to be hamstrung or buffaloed by the statement that something perhaps analogous in its general nature has taken place somewhere else.

We have very little trouble with variations because we make all the variations ourselves. The council doesn't make them. It is a good thing, because to anyone more or less familiar with political bodies, it is entirely clear that no body such as a city council or a public officer in a more or less conspicuous position wants to take the responsibility for any decision which he can avoid. That is one of the great principles of American politics.

The council has been possessed of the cooperative spirit not only vocally but in fact, and in every instance they have displayed the utmost impartiality and utmost desire, where a moot question involving any considerable body of votes, say ten or upward, was under consideration, to pass the question over and get the recommendation of the board of adjustment. We are always very glad to recommend.

We have found it extremely useful, in nailing every case down to its own particular facts, to go out and look at the premises. Whenever we are in the least bit embarrassed at a meeting, I look at Mr. Kirkendall and he says, "Mr. Chairman, I think we ought to view the premises." Then we go out and look at the premises. It is a mighty poor set of premises where you can't get the necessary premises for your decision. That is the first pun I have made

in a speech for fifteen years, and I want to enter a formal apology at this time.

So much for the elasticity which seems to me to be the life of any ordinance of this kind.

There is one other general subdivision that I want to allude to, and that is practical procedure. There is nothing so important as letting people talk as long as you have the physical strength to stand it. It is the greatest outlet for ill feeling and for dissatisfaction that exists. I have sat with my colleagues time and time again and listened to a lawyer re-hash principles in direct defiance of everything that Mr. Bassett has ever said. We have listened to it and generally we have decided against it. But you have no idea how much better he feels and how much better his client feels because he has earned his fee and his client has seen him exude the necessary sweat to prove it.

After we conclude the formal business at every meeting the gates are literally thrown wide open. If anybody wants to talk to the board about anything from birth control to woman suffrage he has the right to do it. They think the zoning commission is all right. Only the other day, when the board was accused of conducting star chamber proceedings, did the practical value of the thing appear. It was apparent to everybody that the board of adjustment would talk to anybody about anything. As long as it doesn't control the board's conduct when it acts officially, it works out to everybody's satisfaction. We have tried to emphasize ease of approach. All they have to do is to open the gate in the railing down at the council chamber and walk up and sit down. If a man or woman hasn't courage enough to do that, they generally have no rights worthy of any real consideration.

Along the same line, the appeals from the building inspector to the board should be made very easy. We have never taken a technical stand with reference to an appeal. If there was any question as to whether the appeal was properly lodged or taken in time, or any failure to comply with some detail of procedure, we have resolved it in favor of the party who wanted to appeal. We

always let them appeal. They can appeal as long and as loud and as often as they want to. I will say in justification of the board's procedure, I have never yet known an appeal to change a decision, but everybody feels a great deal happier.

There is such a thing, you know, as getting along with people, and if you get along with them easily and discuss their problems with them you have very few serious troubles. To prove that, I might say that our board has been in some seventeen litigated cases and we have won sixteen of them, and the seventeenth is now in the Supreme Court. Evidently the party who took that appeal had no sense of humor.

There is a place for compromise and concession. It is just as dangerous for the board to stand on the literal wording of the ordinance or of the rules as it is for any applicant to attempt to stand on the same basis. To give you an illustration of that, not long ago there was a neighborhood in town where because one side of the block was on a business street and the other was on a residential street it was questionable whether certain regulations with reference to set-backs on the residence side should be enforced. It has always been a question in our minds whether in view of the decisions of our Supreme Court we could sustain a set-back of that sort. The entire neighborhood appeared, headed by a lawyer, who contended that the zoning ordinance said so-and-so and they were standing literally on their rights. We said, "All right, we will take you at your word. We will decide this in accordance with your contention, and if the other side takes it to court we are confident you will lose and we will lose," and that is exactly what happened.

We have found also it is an extremely useful thing in case of any doubt to advertise an application. We make up the signs ourselves and post them on the premises. If anybody says he didn't know that a case was going to be heard at a certain time it is his own fault.

We have not done any trading whatever with the city council. I think that is due to the fact that none of us cares a hang whether

we are on the board or not, and if the council wants to remove any of us they are at liberty to do so. As a result, we have never had a councilman come to us and ask us to do anything for him, and if he asked us outright to do it as a favor to him, I am quite certain we would refuse to do it on general principles. There are some decisions you make just in furtherance of general ethical principles quite apart from any law or any regulation or any rules. The council has seemed very well satisfied with that arrangement.

You may wonder what function the council really exercises under this sort of a system. So far, the only function that the council has attempted to exercise has been the right to amend the map and amend the ordinance. We feel that the fewer amendments there are the better. After all, the basis of a zoning ordinance is economic stability, fixed value with reference to classification, and as long as we can sustain that we feel that we are in harmony with, not exactly the universe, but with that very intangible sort of thing, the spirit of the zoning act. You know, as Chief Justice Holmes says, "The life of any law is not logic but experience," and there are many of these things that must be administered with reference to practical facts and practical conditions quite apart from the specific features of the law itself.

There is just one other subject I want to touch on, and that is certain legal features of the administration of the regulations of a zoning ordinance. One is the absolute necessity of adequate minutes. We set forth in our minutes everything but the date of birth of the chairman of the board of adjustment. We recite the names of every witness who appears. We set out the exact wording of the signs posted on the premises. We recite the fact that attorneys did or did not appear. We found when we got into a lawsuit that the court, so far, has found our minutes entirely adequate, almost embarrassingly adequate. That is a great deal better than putting the court in the anomalous position of having to take evidence on a certiorari proceeding, which is the proceeding called for by our charter where evidence is otherwise lacking.

When the secretary calls the various members of the board to

ask them what they thought about the case, they have invariably forgotten. We then have a hasty conference to find out why we did decide it in the way we did, and after having refreshed our recollections prior to the trial we testify with a degree of uniformity that is almost suspicious in itself. You know, in the trial of any lawsuit the suspicious people are the people who testify exactly alike. A slight differentiation in detail is always a mark of probity. That is a thing we have not yet succeeded in developing, although our technique is constantly improving.

There is another thing to be considered, and that is the necessity of adequate legal advice and adequate legal representation. When we are in a tight place and want a legal opinion, and are perfectly certain what the law is, we ask the city attorney for a legal opinion, and we brandish that in the face of the objector. In nine cases out of ten that completely disarms him, and that is the end of it. In some cases you have to go further. You wait on the attorney and implore him to delegate his best deputy to try this case because the entire zoning principle is at stake. He sees the light and gives us an extremely able lawyer who so far has been uniformly successful.

There is a certain practical technique involved in this business which is extremely interesting, because my casual observation without any reflections on business men is that the hard-headed, practical business man in a matter of law is the most theoretical, technical, abstract person you can come in contact with. It takes the abstract lawyer to be practical when it comes to the application of a legal principle to facts. I think you will find that has always been true.

We always avoid litigation when we can do it. If we can give a fellow a foot and keep him from bringing a lawsuit, we give it. If we can get a foot and thus avoid bringing a lawsuit, we do it. We find the system of mutual compromise in an informal way has been extremely helpful.

There is one other angle on its legal side where I think there is some danger to boards of adjustment. A board of adjustment, like

any other public commission, always has an itch to assume as much power as possible. It is a dangerous thing. Safety lies in disclaiming all power and exercising whatever you need. The minute a board attempts or pretends to have control over a situation for reasons of expediency in any particular case, it will eventually find it has walked into a hornets' nest. That invariably occurs.

To me it seems that the most practical way for any board to go along is not to attempt to exercise power which eventually will be dangerous for them to exercise unless it is based on the very solid provisions of the ordinance or the charter that lies at the basis of the board's creation.

Occasionally we have people coming up and saying, "So-and-so is using the property in my neighborhood in a way which bothers us, which is a nuisance, and which is this, that, and the other, and we want you to stop them because you have the power to regulate us."

We invariably say to them, "If it is a nuisance, go to the city attorney and tell him to abate it like any other nuisance. We are not here to abate nuisances. We are simply here to administer the terms of the zoning ordinance."

If there is any moral which I can draw from the whole business of practical administration of a zoning ordinance, it is found in the lines of Alexander Pope, which apply to the enforcement of law as well as to forms of government:

> For forms of government let fools contest.
> What's best administered, is best.

DISCUSSION

Major Carey H. Brown, Rochester, N. Y.: In many cities there are lodged in the hands of the zoning engineer or the secretary of the zoning commission certain functions which evidently in Denver are discharged by the Zoning Board of Appeals. It is of great importance, particularly in the early stages of enforcement, that the zoning plan be administered by someone familiar with the *development* of the ordinance and of the maps. Principles of zoning are the same everywhere, but in each locality there are peculiar and

individual considerations expressed either in the language of the ordinance or in the limits of the various districts. The man who has been familiar with the ordinance and the maps from their inception has a better knowledge of such considerations than can be gained by subsequent study.

Mr. Grant has spoken of the importance of giving all concerned opportunity to be heard relative to particular applications of the ordinance. In that I fully agree. However, it is also most desirable that the viewpoint of the Planning Commission or other agency charged with guardianship of the plan be likewise presented at any public hearing where a question of principle is involved. Public presentation of both sides of the question enables the Board to make its decisions in accordance with the evidence and avoids the appearance of star chamber procedure.

Mr. Grant has also pointed out the desirability of holding changes in the maps or ordinance to a minimum. However, some changes will certainly be made, and consequently the administrative or planning agency must be always on the alert for opportunities to secure changes which will better the zoning system. The usual application from a property owner requests a decrease of restrictions. This may be offset by proposals of the planning body to increase restrictions elsewhere. In the District of Columbia, and elsewhere, no doubt, this result has been accomplished in many cases. For example, the original zoning maps showed a great deal of "string zoning," that is, long stretches of commercial zoning on arterial highways through the residence districts. Experience soon proved that concentration of this commercial zoning near important intersections would be better both for the adjacent residential development and for the business itself. During several years of administration of the ordinance, changes by way of "zoning up" rather than "zoning down" eliminated many of these strings. Likewise much property within the residential use district was "zoned up" as to its height and area classifications, some of these changes being initiated by the Commission and others by the property owners. Education of the public in the matter of the protection available through zoning will result in many such applications for zoning up. These are evidences, not of instability, but of the desire for the best possible zoning plan. Of course, an application for zoning up should not be approved solely because it represents an increase of restrictions, but must be considered with reference to the whole plan.

There must be close contact between the zoning administrator and the city legal department. In many cases the legal department will be consulted by a disappointed land owner before any application is made to the zoning board or at least before legal proceedings are instituted. If the legal department, or some member of it, is thoroughly informed as to the bases of the zoning ordinance, much zoning litigation will be avoided.

Finally it must be borne in mind that rules of conduct are no substitute for tact and diplomacy such as exemplified by Mr. Grant and the Denver Board in their administration of the local ordinance.

Frank D. Stringham, Berkeley, Calif.: I was early convinced that people should not use their property to injure others, and that where the areas were confused zoning was a method of making living conditions better. As City Attorney I was instrumental in drawing the first zoning ordinance, and later sat on the planning commission.

Before coming to Denver I sent out a questionnaire to four of the large cities in northern California, asking these questions: Has a zoning ordinance been adopted in your city? Is it successful? Is it popular? What are the difficulties it is meeting? I got responses from San Francisco, Oakland, Berkeley, and Sacramento. Some cities said that they had too many zoning classifications. All said that the ordinances were operated with more or less success and that they were more or less popular. In one city politics had interfered more or less with the administration of the ordinance, but on the whole it was giving protection to residential districts and to a certain extent protecting business and industry.

We are meeting generally with the difficulty of every city letting down in its zoning administration, and there is danger that where petitions are readily granted the ordinance will break down entirely. We have no boards of appeal. I am not certain just why we don't. I am wondering if such boards would not help solve the difficulty. It may be that we have no boards of appeal because the city attorneys have opposed their appointment. It may be that we feel that a board of appeal would add more expense of administration and result in more taxation. In my opinion you can't create any board of commission, whether paid or unpaid, which does not add to the expense of government. The more discretion you give these boards so that they become semi-legislative or quasi-judicial, the more individual rights are infringed upon and the more the law tends to break down.

Generally speaking I would say that we have solved our zoning cases which required variation in a very satisfactory manner. We did it in an informal and ex-legal fashion and often by what is called a gentleman's agreement. There are a great many ways in which people can be satisfied and their legal protests and appeals prevented. You can often talk them out of a position just as I imagine happens in Denver with Mr. Grant as Chairman of the Board of Appeals. The personnel of boards is a greater cause of success than the excellence of the law. I am particularly interested to know whether the discretion delegated to boards of appeal is leading to abuses that may be intolerable.

Morris Stern, Milwaukee, Wis.: Our board of appeals consists of five members: an architect, a real estate man, a builder, a lawyer and a woman who represents the women's clubs of the city. The combination is a happy one. Replying to a question from the Mayor of Berkeley, our appropriation last year was $85, and at the end of the year we had $62 left. So you will see if you can get your citizens interested in serving on the zoning board it isn't a heavy burden on the taxpayer. I cannot visualize the enforcement of a zoning law without a board of appeals, and I believe that its function is more than a mere interpretation of the law. My board delegates to itself a little judicial power.

May I take a few minutes to present one of our problems? Our zoning law provides that in a certain area the maximum volume of a building is determined by taking the square area of the lot and multiplying by 125. The First Wisconsin National Bank of our city was refused a permit because the proposed addition to its present building would exceed the legal volume. An appeal was brought to our board based on a novel theory. Since the lot in question abutted on the Milwaukee River and since the courts of Wisconsin have held that the owner of such lots holds the fee up to the center of the river, the permit was wrongly refused because the building inspector's computation of the square area of the lot left out the ownership to the center of the river. Although we did not reverse the building inspector's action, we worked out a plan with our legal department whereby the permit was granted to the Bank.

The newspapers played up the case and soon along came an owner of the Bankers' Building, situated on a very prominent corner, and made application for a permit for an additional four stories, using the same contention as the First Wisconsin National

Bank except that in this case he wanted the square area computed on the basis of ownership to the center of the street. I might say that the old streets in Milwaukee were merely dedicated for use as highways and that upon abandonment as highways the full use reverts one-half to the owner of the land on one side and one-half to the owner of the land on the other. If this contention is correct our zoning law is practically meaningless so far as this area is concerned.

Mr. Bassett: When this plan for measuring building heights and volume was adopted, a lot should have been more specifically defined and the river and street should have been excluded from the dimensions of the lot.

C. E. Ashworth, Palo Alto, Calif.: Our practice in zoning cases is somewhat different from Denver's. When a non-conforming permit comes to our planning commission, a committee is appointed to view the premises and bring back a report to our commission. If the permit is denied, the matter is then referred to our board of public works. The applicant has the right to appear before that board and state his case. If the board of public works comes to a different decision the case is referred back to us. The usual thing is for the board of public works to abide by our decision on non-conforming permits.

Alfred Bettman, Cincinnati, Ohio: It is quite clear that the question is not shall there be a board of appeals, but shall the function usually entrusted to a board of appeals be performed by such a board or by somebody else. In view of the many situations which may arise, owing either to ambiguities in the zoning map or in the language of the ordinance, or owing to individual hardships which may result from topographical conditions, the function of review and interpretation must be performed or the zoning ordinance will not function at all. Some cities may permit the council to administer the ordinance, in which case the council is acting both as a legislative body and as an administrative body. This does not seem to me to be good practice, because taking councils as they are apt to be and taking boards of adjustment as they are apt to be, the integrity of the zoning ordinance will be usually better preserved by a board of appeals.

I agree that it is important to keep zoning cases out of court. Still, in administering a zoning ordinance, there should be adherence to sound zoning principles and to the zoning ordinance. I believe that the zoning board should rather adjust the general

standards of the ordinance to exceptional and extraordinary situations rather than to get the habit of departing from the standards of the ordinance. I do not believe that boards of appeals should get into the habit of granting variations in use. This is a legislative function and should be exercised by the city council. If we adhere in a reasonable and practical way to this division between the legislative idea of creating the zoning rules and the zoning map and the administrative idea of applying the rules and the map, with some little elasticity for adjustment to the exceptional situation, there will be a better result than if the two functions of legislation and administration are exercised by one body.

Stephen Childs, San Francisco, Calif.: I am not speaking as a member of a board of adjustment but as a consultant. We have just succeeded in passing a zoning ordinance for the city of Phoenix, Arizona, in which provision has been made for a board of appeals. We were not content with preparing what we hoped was a good zoning law, but we looked ahead with a view to assisting the board of appeals. In addition to the usual public hearings preliminary to the adoption of the ordinance there were many private hearings. The chairman of the zoning board and the vice-chairman, both well known in Phoenix, made it their business to get their friends to support the ordinance. We were successful in getting the ordinance discussed. Many came to the zoning office with little or no idea about the nature of zoning. Others came with the idea that the ordinance was positively a bad thing, but almost everybody went out of the office in favor of it. We have collected 3,400 cards signed by owners of property in Phoenix who are in favor of the zoning ordinance, and this in a city of 35,000. We believe that this concrete evidence of support will be very helpful to the board of adjustment.

Robert Kingery, Chicago, Ill.: It has been my privilege to serve as a member of the board of appeals of Winnetka, Ill., for something over eight years and a half, five years and a half as the chairman. During that time there have been over 400 appeals to the board. Of those 400 the records show that about 60% have been denied, and of the cases denied only three have gone to court. One of these three has been settled out of court and the other two have not yet come to trial.

A word about the Milwaukee situation. It is ridiculous to venture an opinion with only the facts that we have heard, but in spite of that I believe that Mr. Gurda, the building inspector,

was right when he refused the permit. A public street and a public river are not parts of a lot for building purposes.

Harry C. Clymer, St. Louis, Mo.: We have avoided so far all court cases in the administration of zoning in St. Louis. We often compromise cases and often grant a non-conforming permit when it has been shown to the satisfaction of the property owners appearing to protest at a public hearing that the granting of the permit will not do any substantial damage. Not long ago we had a case involving one of our large hospitals which owned a tract of land extending from one street to the other. The tract had been divided for zoning purposes and one portion was zoned for multi-family dwellings. The extension of the hospital would encroach into this multi-family zone where there were definite provisions for side-yards and backyards. After several conferences and executive sessions we reached a happy compromise. The hospital authorities agreed to set their building back fifteen feet from their front line and the owners of the next adjoining land to the hospital agreed to keep their buildings back fifteen feet from the hospital's side line.

THE AIRPORT IN THE CITY PLAN

The Harvard School of City Planning will publish this year the first volume of its planning research series. It will contain three reports on the subject of the airport. The first of these reports is on the relation of the airport to the city and regional plan and to the general transportation system. The digest of this report, specially prepared under the direction of Henry V. Hubbard and Howard K. Menhinick, of the Harvard School, for presentation at the Denver Conference, follows:

Introduction

Air transportation in the United States has grown faster than our knowledge of the subject. It will not wait for compilation of data or training of experts. Representatives of communities have to locate airports, and they have the choice only of locating them blindly or locating them in the light of such information as they can get at short notice. This report hopes to set down in their logical relation the important things which must be considered, remembering that no mechanical means of decision is possible, and that the relative importance of the various factors is different for each separate community.

The airport is primarily a part of a transportation system, as important to a town now as a railroad was fifty years ago. The airport is also a functional area which must be related to all the land serving the community, so that each part and the whole taken together shall most efficiently produce all those good things which the community ought to provide for its citizens; that is, the airport must take its place in a complete and reasonable city and regional plan. To make a decision which will produce this result takes knowledge and skill. It is the task of the City Plan Commission, or of whatever representative of the community makes, interprets and defends the city plan. It should not be evaded, nor dissipated among a number of authorities with partial responsibilities.

Physical Characteristics of Airport Site

A. *Size.*—The size of an airport *depends* on its use. The following uses are common at airports in the United States: (1) air mail; (2) transport; (3) flying schools; (4) air taxi service; (5) sightseeing and joy riding; (6) use by private planes; (7) testing. Out of 80 airports furnishing information, 42 handled air mail; 46 were concerned in transport; 69 had a school; 67 had taxi service and sightseeing; 64 gave housing for private planes, all of the 80 provided them with landing facilities; 34 carried on airplane testing. In these early days all these uses properly belong on one field. Ultimately, however, they will be restricted, regulated, and finally largely located in different airports.

The size of the landing area depends primarily on the necessary length of runway. The Department of Commerce requires for a No. "1" rating at least 2500 feet of effective landing area in all directions or landing strips at least 2500 feet long and 500 feet wide extending in eight directions so as not to cross or converge at angles of less than 40°.

Out of 392 fields about which we have information, only 33 had runways permitting landing in eight directions. Out of 809 runways recorded, only 279 had a length of 2500 feet or more. Out of 667 landing strips or runways, 513 were less than 500 feet in width.

In addition to the landing field, the following subsidiary uses need space: (1) storage for planes, occasionally out-of-doors and regularly in hangars; (2) buildings for storage of supplies and for overhauling; (3) buildings for passengers and the airport personnel; (4) accessory buildings for the fire protection and policing of the field, etc.; (5) area for the parking of automobiles. This cannot be an undifferentiated part of the flying field, but it should be immediately adjacent. Some say that there should be five acres of parking space for every 100 planes that use the airport. At any rate, parking will require a considerable area.

Space may be saved by compact design; absence of obstacles

above the ground nearby will avoid waste of space in the airport itself.

Actual acreages observed vary enormously, between 1085 acres for Cleveland and 38½ acres for Hoover Field at Washington. Most fields have an acreage between 100 and 500, the largest single group being between 100 and 200. These are the total areas owned or controlled by the airports. More than one-half of all the fields reporting had a developed area less than 200 acres, and only two fields had a developed area of 400 acres or over. These sizes are the result of local circumstances, rather than comprehensive design.

We are planning for future and not for present use. It is unlikely that improvements in the ability of aircraft to alight and arise from the field will reduce the size of the field, because such improvements would cause an offsetting increase in the number of aircraft. There is presumably a maximum efficient size of an airport, and if more use must be provided for, probably more airports rather than airports larger than this size would be the solution.

B. *Shape.*—An airport may have almost any shape, so long as it contains a landing field as just discussed. Available land, road location, direction of prevailing wind, and outside obstacles will naturally have an effect on this shape.

C. *Orientation.*—A choice of orientation applies to the runways, rather than to the whole field. Extent in the direction of the prevailing wind is most valuable.

D. *Topography.*—The mean slope of the landing area should not be more than two per cent in any direction. Cut and fill to produce this condition is really a part of the original cost of the land.

E. *Soil and Drainage.*—Three considerations as to soil are important: ease of excavation, porousness and firmness, and fertility of the top soil in areas to be kept in turf. Rapid disposal of storm water and water immediately below the surface is essential, and again the cost of surface modeling and subsurface draining to produce this result is fairly a part of the cost of the land.

F. *Atmospheric Conditions.*—To some extent atmospheric conditions are consistent throughout any one region and do not, therefore, affect the choice of an airport for a given city. But in some ways they differ greatly within short distances. The direction and velocity of the wind in relation to the normal line of approach to the field, and particularly the predictability and constancy of the wind, are important. Adjoining hills or local uses making air pockets are particularly disadvantageous. Fog and smoke are very serious, and in regard to them, topography, wind direction and air drainage must be studied. The airport should lie to windward of a district producing smoke, and on a hill rather than in a hollow. Rainfall does not differ much within any one region, but liability to the drifting of snow varies greatly within short distances, and may actually be a deciding factor in airport location.

G. *Physical Characteristics of the Surroundings.*—An airplane rises at about the rate of one foot vertically for every seven feet traversed horizontally. No obstructions around the airport should extend above this line. This consideration applies with added force to structures like power lines, radio masts, etc., which are just as dangerous as solid buildings and less easy to see. Again this is an argument for having the airport on at least a slight eminence. Anything in the surroundings affecting fog, smoke, or uncertainty of air currents, as above discussed, is a factor to be considered.

Relation of the Airport to the City and Region

In addition to the previously discussed local considerations, there are factors of broader relation which vitally affect the choice of a site for an airport. One is the relation of the airport, as a part of a great transportation agency, to all the other areas in the region, however used; that is, its relation to a consistent city plan.

A. *A Regional System of Airports.*—No one can now with certainty plan for the best future development of aviation. For discussion, however, we suggest the following as a possible regional

system of airports. It would presumably be set up, if at all, only for the larger cities.

1. A large intown municipal airport, being to air transportation what a union railroad station is to a railroad system. It should be within fifteen minutes of the center of the town. It should not contain any considerable storage or repair facilities. It should probably not be open to private planes. In every way its efficiency should be kept high and its area should be kept low. Many cities have waterfront locations, very near their center, which are still cheap and large enough for this purpose. Also railway yards might be used when the railway system is electrified. Possibly even some blighted districts would be so cheap and so bad as they stand that public money might properly be used to put an airport in such a place.

It should be particularly remarked here, however, that an existing park in the heart of a city is not an opportunity for the location of an airport. A park serves its own functions which cannot be served by anything else. It would be poor business to gain an airport by losing a park.

2. There might be some airports serving as storage and repair shops for the airplanes touching at the intown airport. They could be as far from the center as necessary and need not be very closely related to the ground transportation system.

3. There might be an outer circle of airports like the parking spaces and garages at the outer termini of the rapid transit system; that is, they would be places to which people residing in the suburbs or the country would come by private or taxi airplane, and from which they would go by rapid transit to the heart of the city.

4. Then there could be at suburban centers, perhaps far from the city, local airports from which the local population would fly, principally to the ports mentioned under 3.

5. Also there might be various private airports; that is, landing ports for airplane clubs, manufacturers' testing fields, schools, etc.

Along main routes of air travel, intermediate landing fields are

desirable ten miles apart or closer. Small local airports will often also serve this purpose.

It should be remembered, in considering this or any other scheme for the distribution of airports, that the airport like the park should be a continuous area, not cut through by public roads, and thus it is bound to be, on account of its size, an interruption to public traffic on the ground. Therefore it is essential to consider airports together with the main highway system, so that they shall be accessible by highway, but shall not interrupt main lines of traffic, and to consider them in relation to the population, so that they shall not interrupt residential or other areas which should be continuous, and shall not unnecessarily occupy areas which would be more efficiently occupied by some other use. Many cities, however, contain undeveloped areas which could be filled and drained sufficiently to make entirely satisfactory airports, but from which, if they were occupied by houses, sanitary sewage could be collected and discharged only at a disproportionate cost.

B. *Relation to Various Means of Transportation.*—

1. Airways.—The location of an airport may be affected by its relation to the airlines which it serves. Naturally it would be located on an existing airline, if there is one, not only to save air distance, but to prevent bending the airline, which is awkward in the handling of radio beacons, etc. If possible, airways converging on an airport should lie over less densely developed portions of the town. This lessens annoyance and danger to the people from the planes, and gives the plane a better chance of making emergency landings.

Waterways may determine airport location. If both airplanes and seaplanes can be used, obviously the airport as a point of transfer might best lie on the shore.

2. Railroads.—The principal advantage of air transportation is that it saves time. It is valuable only in those cases where it is quicker to use air transportation, including the delays of getting to and from the airport, than it is to use ground transportation. A location for the airport directly on a railroad line aids pilots in

locating the airport, since they can keep their course by following the railroad. Also it facilitates the transfer of passengers and freight from plane to train and vice versa, and it facilitates the shipment to the port of oil, gasoline, etc. In fact, no large airport could afford to be without at least a spur line railroad connection. If the airport were built directly over a railroad terminal or railroad yards, this connection between air and railway would be ideally provided.

3. Transit.—We are seeking proximity in time rather than proximity in space between the airport and the center of the city. The better the transit facilities, the farther away may the airport be. In each case, it must be determined whether the most per dollar can be obtained by providing physical nearness or by paying for transit facilities. A surface car line is an advantage, but a line of busses is just as good, and busses can operate over any sufficient street. It is unlikely, therefore, that a surface car line would be built to an airport, or that an existing surface car line would determine the location of an airport, unless this line operated on an independent right-of-way like a railroad. Elevated lines and subways give the most rapid transit, but where they already exist, the land values near their termini reflect their advantages, and these high values will sometimes be better borne by some more intensive use than that of an airport.

4. Highways.—The airport should be easily accessible from the main highway, but it need not abut directly upon it for any considerable length. A location slightly off the highway avoids the inconvenience of having cars parked on the highway to watch the airplane activities. More important, the land abutting upon the highway has high residential and other value which is not an asset to the airport as such.

The master consideration determining the effective nearness of the airport to the center of the city is likely to be good highway connecton for use by busses. Separating grades at the principal intersections, eliminating railroad grade crossings, adequate width and proper pavement of highway, proper control of traffic, especially

at street intersections, and avoidance of existing developments which cause traffic congestion, will be the natural things to be sought in facilitating traffic.

The appearance of the approach is important. A pleasant boulevard, through pleasant country, will have a value to the airport and to the city.

C. *Relation of the Airport to other Functional Areas.*—

1. Relation to Residential Districts.—A contiguous residential area does not harm an airport except where tall apartment houses, schools, hospitals or church spires may be close by. This difficulty can usually be minimized either in zoning or in the location of the airport. Trees, however, belong in a residential district and cannot reasonably be restricted.

An airport is considered by many people to be harmful to a residential district on account of noise and dust and night lighting and danger. Engine noise may be overcome in the future. Propeller noise probably will remain. Dust, being a nuisance to the field as well as to the district, will presumably soon be overcome. Night lighting has proved on the whole to be less obnoxious than was at first feared. Danger there is to life and property by airplanes flying overhead, but compared with all the dangers of city life, it is relatively very slight.

The measure of the effect of the airport on a residential district would be the trend of land values. The figures which we have are uncertain and misleading. Where the values were originally very low the airport has raised them, at least near its entrance. In a high-class residential district, however, where the airport is less attractive than an equal area of the district, the airport would probably lower values.

2. Relation to Commercial Districts.—A contiguous commercial district is harmful to an airport in that it creates a hazard due to its closely built character, tall structures, the unpredictability of air currents above it, and, to some extent, smoke. The greatest disadvantage to an airport in a commercial district is, however, the normally high value of the land.

The principal harm which an airport can be to a commercial district, in addition to some danger, is that it causes a serious barrier to transportation and to expansion.

3. Relation to Industrial District.—A contiguous industrial district is bad for an airport on account of its smoke and unpredictable air currents, and to a less degree because the industrial district is not likely to offer a pleasant approach to the airport. The airport does no harm to the industrial district, except that, as in the case of the commercial district, it may interrupt traffic or block expansion.

4. Relation to the Recreation System.—In this important consideration it should first be taken into account that an airport is not a legitimate element of the public recreation system. The recreational use of airplanes is a small part of their value, and depends largely on novelty. The recreational areas, therefore, have little which they can properly offer of advantage to the airport. They cannot be used as intermediate landing fields and remain parks. No man could be content to allow his children to play in a park into which an airplane might descend at any moment and for any unimportant reason. A proper park system is worked out to be sufficient for its own uses. The only excuse, therefore, for taking park land for an airport would be that such land was not suitable for a park, or that it could never be needed as a park—very unusual circumstances in our experience of public parks.

Figures on use of park land for airports are misleading, because in a considerable number of cases land has been taken by eminent domain for a "park," since the city lacked legal authority to take it in this way for an airport, although its final use was intended from the beginning to be that of an airport.

5. Zoning for Airports.—It would seem to be impossible to create a special zone for each airport. This would mean definitely predicting in the zoning plan airport locations for a period far in the future. Moreover, an airport is primarily a transportation unit, and it is sometimes privately owned and operated, making it difficult to treat as a separate individual zone. Ordinarily the air-

port would be located in a residential district because here are the greatest area, the least intensive development and the fewest streets, but the airport might in a special case be best located in any one of the zoned areas, and its location is a matter of great general concern. It would seem, therefore, that the airport may have to be considered as a use normally excluded from residential districts, except that the Zoning Board of Appeals could and should grant specific locations for airports within residential zones after receiving in each case sufficient proof of convenience and necessity. In commercial and industrial zones, the airport probably should be considered as admissible by right, but in these zones, of course, there are likely to be high land values and many constructed and established streets which would both make it expensive to assemble a sufficiently large area for an airport and unlikely that so large an area could be set aside without upsetting the city plan to an extent to which the city Planning Board ought not to accede.

D. *Appearance of the City as Seen from the Air.*—It is an important duty of the municipality and the region not to offer to the sight of those who travel over it by air anything unnecessarily offensive by ugliness, and not to deface the present beauty of the landscape as seen from above. The principal application of this is in the matter of advertising signs. We have seen the public views from our railways and highways polluted and exploited for private gain. Similar misuse of the scenery as seen from the air is sure to begin soon—indeed it is already beginning, and it will be much more easily forestalled now than later remedied.

Relation of the Airport to the National Transportation Net

A. *Relation to Airways.*—Early in the study of the airport site it should be determined whether the city is on a regional or national airway route, or one reasonably to be predicted. If not, is it quicker, counting all delay, for a person to get to the nearest airport by rail or by air? If by rail, then the municipal airport is

local only. If the airport is on a main air route, is it a terminal, a junction point, a regular stop, a flag stop, or no stop at all because near a larger stop? The amount and kind of traffic and the amount and kind of transferring from through to local plane, or from plane to ground transportation and vice versa, will be different under these different conditions.

B. *Relation to Railroads.*—If the airport is on a main transcontinental railway line, it should be considered whether the airport is a good place for transfer from plane to rail or from rail to plane. This, however, depends largely on the schedule of the trains.

C. *Relation to Waterways.*—If a waterway touches the town where the airport is located, there is the question of transfer between ship and plane and between hydroplane and land plane, affecting the location and all the activities of the airport.

As we said in the beginning, it never will be possible to lay down a mechanical system of rules for the best location or the best character of an airport. Also the shortness of the past of air navigation does not now give us sufficient data from which to predict its future. All that we have done, therefore, in the much longer report with compiled data of which this is a digest, is to set down the points that ought to be thought about in order that anyone may learn what the problem is that confronts him in locating an airport, and something of its financial magnitude and promise, so that if he must make some practical decision he may make it with his eyes open, or if he feels, as he well may, that he needs assistance, he will know what sort of assistance to call in where he does not feel himself to be competent.

AIRPORT PLANNING

Hon. Clarence M. Young, Assistant Secretary of Commerce for Aeronautics

The growth and development of civil aeronautics in the United States are due in no small measure to the establishment of airports and landing fields by municipalities and private interests.

Just a few years ago the airport facilities of the nation were limited almost entirely to the Army and Navy airdromes. Today there are 1,621 airports and landing fields. Of this number, 486 are municipal airports, and 540 are commercial airports, and the remainder are divided into Department of Commerce intermediate fields, army airdromes, naval air stations, and marked auxiliary fields.

The number of existing airports is by no means sufficient to meet the needs of American aeronautical progress. Cities and towns without airport facilities now realize they cannot afford to be isolated from the increasing aeronautical activities. The best evidence in support of this belief may be found in the fact that at the present time 1,120 municipalities have airports in project in one form or other.

In the past few years much has been learned about airport planning. While there is undoubtedly a great deal more to learn, the information now available is sufficiently comprehensive to point the way toward good results.

Consideration of Municipality Problems

For this discussion of airport planning it might be well to divide consideration of the problems of municipalities into three groups: the large city with a population of 100,000 and over; the medium size city of 25,000 to 100,000; and the small community with a

population under 25,000. This division, of course, is arbitrary, and given airport problems will not be confined to certain classes in all cases.

In nearly all instances the large city is faced with the necessity of providing one or more terminal airports so located that they will efficiently serve its wide-spread population. Operations from these terminal airports will eventually be confined in the main to scheduled air transport and large scale taxi service. In addition to the terminal airports there will be specialized airports furnishing roundhouse facilities and serving as ports from which such activities as sales, service, school, aerial photography, and crop dusting can be carried on.

In the very large cities during the next few years it is believed that suburban air travel will grow to a marked extent. This traffic will undoubtedly be of two classes: first, scheduled operations between the large city and small outlying communities, and second, activities of private owners who will commute daily to their offices by air from their estates within distances up to possibly 100 miles.

It may be well to include at this point a brief statement of the requirements for a terminal airport. It should have a large, well-drained, smooth, dustless landing area with clear approaches from all directions and equipped with suitably constructed runways, if these are necessary to insure the safety of all-weather operation. It should also be well located from a meteorological point of view and be free from dangerous wind currents caused by nearby hills. In case the main airport is occasionally subject to fog, it should be supplemented by at least one auxiliary field where landings can be made safely.

In addition to the hangars and other buildings necessary for the maintenance and operation of the planes, there should be terminal facilities to care for the comfort of passengers. Adequate means should be provided for loading both passengers and luggage into the planes with minimum discomfort and maximum safety. The airport should be equipped with some system of controlling traffic

both in the air and after the plane has landed, and should have adequate weather and radio services. In addition, the terminal airport should be so located as to facilitate the exchange of traffic with existing agencies of transportation and should be conveniently accessible from the business district of the city.

The problems for the medium size cities are in some ways similar to those of the large cities. In this case one or possibly two terminal airports may be expected to serve the community's needs for some time to come. There will probably not be the immediate separation into various special services such as may be expected in the metropolitan areas. Particularly in the smaller cities, miscellaneous operations may be expected to continue from the terminal airport for some time. The instruction of students will, undoubtedly, be the first one of such services to establish a separate airport, both from the point of view of the safety of the public riding in the transport planes, and also to facilitate flying instruction.

The growth of feeder lines carrying passengers, mail and express from the smaller to the larger cities may be expected, and in many cases these cities will be made stops on through air lines where a system similar to through and local train schedules may be worked out. In such a system the large transport planes operating between centers of population will be supplemented by smaller local planes which will concentrate persons desiring to catch through planes at designated points and, in addition, this service will serve persons desiring to travel between the smaller cities.

In the case of the small community, the airport will accommodate miscellaneous air service as well as scheduled operations. In developing an airport for the small city or town, emphasis should be placed upon acquiring an adequate land area, even though the conditioning of only a portion is undertaken immediately. Where it is at all practicable, control should be obtained of sufficient acreage to meet at least the minimum size requirements for a "1" rating on landing area, as defined by the Department of Commerce Airport Rating Regulations; i.e., either 2,500 feet effective length

in all directions or four landing strips not less than 500 feet wide by 2,500 feet in effective length, no two strips to intersect at an angle of less than 40 degrees.

Certain small cities have made the mistake of starting an airport project with a limited area adjoining the town located in such a way than expansion was impracticable because of paved streets, highways, railroads, or other permanent developments. Occasionally the land has been graded and leveled, a hangar built, and lighting equipment installed on the airport before it was discovered that the landing area was inadequate for the safe scheduled operation of transport planes. The Department of Commerce has repeatedly recommended for the small community that the funds available be used for the purchase and conditioning of land and that hangars, lighting equipment, and other facilities may well come later as the use of the airport warrants.

Many small cities have not considered their prospects of fitting into an air transportation system as being very bright, and this fact has probably been one of the most important ones in deterring them from the establishment of airports. Particularly has this been true where a small city was located a relatively short distance from a large center of population. However, it is believed that with terminal airports in the larger cities conveniently located with respect to the business centers and served by rapid transit systems, there will be the aforementioned growth of suburban traffic consisting of both privately-owned planes and those making scheduled flights.

Cities having scenic attractions in their vicinity, or cities which have become established as vacation centers, have the opportunity of developing tourist travel by air. This opportunity is present equally, regardless of the size of the cities concerned. Already planes have been used to carry parties of sportsmen on fishing expeditions, deer and duck hunting in season, and on vacation outings of various kinds.

Airport Planning in Relation to City Planning

There has been a marked growth of interest in city planning in the last decade. Large cities have found that if costly mistakes were to be avoided they must plan for the future, and nowhere is there greater necessity for a carefully conceived plan than in the matter of providing terminal facilities for air traffic. The various forms of surface transportation should be coordinated with air transportation in such a way that a ready exchange of traffic is facilitated. Existing transportation systems must be taken into account in choosing an airport site, and future highway and rapid transit extensions should be planned to care for the increasing traffic to the airport which may be expected to result.

The location of an airport in a given area will, naturally, stimulate the growth of that section and will tend to attract building operations of various kinds, some of which will be detrimental from the point of view of safe operations from the airport. It is important that suitable steps be taken to protect our air terminals against developments that might tend to jeopardize the safety of the flying public and otherwise reduce the effectiveness of the airport. In an effort to meet the many requests that are being received from city officials and others interested in this matter and desiring information on the subject, the Aeronautics Branch has organized a Committee on Airport Zoning and Eminent Domain to make a comprehensive study of the subject and submit a report setting forth its findings and recommendations. It is expected that this report will be forthcoming during the late fall.

Most airports are either in the process of development at the present time or are so new that very little attempt has been made to beautify them by landscaping and making them part of the cities' park and boulevard system. However, it may be expected that increasing consideration will be given to this matter as the work on the purely utilitarian part of the airport approaches completion.

Selection of an Airport Site

Each community with its particular topography, meteorological and other local conditions presents a different problem when the selection of an airport site is considered, and it is, therefore, not possible to lay down any hard and fast rules governing the selection of sites. The problem is one which deserves careful study in each individual case, since it involves the investment of a considerable sum of money. Then, too, a selection made upon a basis of political, rather than aeronautical, considerations may seriously handicap that city in deriving the benefits from air transportation.

Factors Influencing Safety of Operation

Primary consideration should be given to those factors bearing upon the safety of operations from the airport. These may be briefly summarized as adequate area, a firm, well-drained surface at all times, favorable meteorological conditions, freedom from surrounding obstructions, and maintenance of sufficient distance from other airports.

The matter of airport area is covered in the Department of Commerce Airport Rating Regulations. It should be borne in mind that airports meeting the minimum requirements for the Department of Commerce "A1A" ratings will, in many cases, not be adequate to accommodate air traffic requirements for the larger cities. As has been previously stated, the Department recommends that regardless of the size of the city concerned, an area meeting at least the minimum requirements for a "1" rating on size should be controlled from the start of the airport project in order to provide for future expansion. The landing area when developed should present a smooth, well drained surface, free from ditches, ruts, and other surface hazards. Adequate means should be taken to prevent unauthorized persons or stock from entering upon the landing area, and roads should never be permitted to cross any portion.

The site should be selected with a view of reducing to a mini-

mum the number of obstructions surrounding it. The presence of telephone or power lines along one or more sides of the field decreases the safety of operation and has the effect of reducing the dimensions of the available landing area by an amount equal to seven times their height. Tall isolated structures, such as industrial smoke stacks and radio masts, should be avoided in the vicinity of an airport, as they constitute additional hazards, especially during periods of fog or poor visibility. Before considering a site surrounded by power and high tension lines it should be care fully determined whether these obstructions can be removed and some estimate should be made of the approximate cost.

Meteorological conditions are important factors in the consideration of a site for airport development. Fog is a serious hazard to the safety of air transportation, as it still is to marine transportation. Airports located along rivers, or low-lying, marshy areas, are usually more subject to fog conditions than land of higher elevation. However, it is sometimes advisable, in order to obtain an airport immediately accessible from the city, to consider a development in such an area and to provide an auxiliary field which can be used when the major airport is fog-bound.

The location of an airport on the leeward side of an industrial area, where the prevailing wind may carry large quantities of smoke over it, is to be avoided. Not only does the smoke itself produce a condition of poor visibility, but the smoke particles serve as condensation nuclei and materially increase fog frequency.

The matter of prevailing wind in a given locality is one which enters into the development of a site in many ways, both as regards the layout of runways and landing strips and also the location of building areas, as aircraft, whenever possible, land and take off directly into the wind. Wind conditions should, therefore, be studied carefully, and in addition to the prevailing wind directions for both day and night, the direction from which storm winds of high velocity occur should be noted.

A condition to be avoided in selecting an airport site is the presence of high buildings or hills on the windward side of the field.

Such obstructions, if within a short distance of the boundary of the airport, may cause turbulent air conditions of sufficient intensity to endanger the safe operation of aircraft.

Another factor influencing the safety of operations from an airport is its distance from other airports. The Department of Commerce has given consideration to the minimum distance advisable between airports to eliminate conflict between traffic circling the two ports. Section 2, paragraph 10, of the recommended Uniform Field Rules for Airports (Aeronautics Bulletin No. 20) provides:

"So far as practicable any airplane taking off shall not turn at less than 1,000 feet horizontally beyond the nearest edge of the landing area, and if a turn is made it shall be to the left. This rule shall apply up to a horizontal distance of 3,000 feet beyond the nearest edge of the landing area unless the plane is flying at a height in excess of 2,000 feet."

It is evident that by allowing for a traffic lane 3,000 feet wide around each port, as suggested by the foregoing provision, and further, by providing for approximately 2,000 feet as a neutral zone between these traffic lanes, a minimum spacing of 8,000 feet, or about a mile and a half, between ports is arrived at.

It should be pointed out that in the case of airports located in excess of 1,000 feet above sea level the effective dimensions must be increased because the decreased density of the air necessitates higher landing and take-off speeds than at sea level. The added lengths of landing strips and the increase in size of landing area necessary for increased altitude are indicated by charts published by the Department of Commerce in Aeronautics Bulletin No. 16, "Airport Rating Regulations." In addition, the safe angle at which an airplane will climb decreases with the increased altitude so that the 7 to 1 ratio, which is used at sea level in determining the area to be subtracted due to the presence of obstructions, must be increased. Charts showing the variation of this ratio with respect to altitude are also published in the Airport Rating Regulations.

Accessibility

Although subsidiary to items affecting the safety of operations from the airport, its distance from the city it is to serve and its accessibility by means of highway and transportation systems are very important factors. It is believed that the method of measuring the distance of the airport from a city in miles should be abandoned in favor of one in which the distance is expressed in terms of the time required to travel between the airport and other transportation terminals. Since the larger cities are often faced with the necessity of choosing airport sites located at a considerable distance from their centers in order to secure sufficient area, the solution of the problem may be found by providing means of rapid transit which will enable passengers arriving at the airport to reach the city with minimum delay. The frequency, speed and cost of existing means of transportation should be considered more than the distance in miles of the proposed site from the center of the city.

In certain sections of the country airways have already been established, and in the case of the city located on or near such an airway or airways, the established lanes of air traffic should be taken into consideration in choosing an airport site.

Cost Factors

The investment in land area for an airport is usually a considerable item of immediate expense. The fact that a site requires a large investment for land induces the temptation to eliminate it from consideration on this account, although it may have many desirable features. This has proven to be poor economy in certain cases for the reason that the raw land cost is used as a basis of comparison rather than the total cost of the land plus the necessary expenditures for clearing, grubbing, grading, draining, and surfacing.

An item which often receives too little consideration in selecting a site is the matter of soil characteristics. By a proper selection

of a site with this point in view it is possible materially to reduce the expenditure necessary for draining and surfacing. The most desirable type soil for airport purposes is one containing a reasonable amount of porous material such as gravel, or decomposed granite, combined, of course, with a suitable natural binder. The undesirable types are the soils which become plastic and have a low bearing power when wet. The nature of the subsoil should be investigated, since the effectiveness of a porous top soil is materially reduced if there is an impervious subsoil located very close to the surface. On the other hand, the fact that there is a gravel subsoil underlying a shallow clay top soil materially alters the situation over what it would be if the clay top soil extended down a considerable depth.

It is essential that the airport be usable throughout all weather conditions. If the soil on the site selected for airport development does not possess sufficient self-draining characteristics to insure the safety of all-weather operation, such supplementary artificial drainage should be installed as is necessary to secure this end.

The landing area should be graded so that it presents a smooth, uniform surface with a mean slope of not in excess of 2 per cent and a grade break at any point not in excess of 2½ per cent. In planning the grading of the airport it is well to consider taking care of surface runoff, in addition to meeting grade requirements, since such planning usually simplifies drainage problems.

If the surface of the field is not sufficiently firm at all times to permit the safe landing and take-off of airplanes, artificial runways at least 100 feet wide should be provided. These may be constructed of some wear-resisting material such as crushed rock or crushed slag with a suitable binder in such a manner as to give a smooth, uniform surface. This includes such forms of surfacing as bituminous macadam, bituminous concrete, and Portland Cement concrete. It is important that runways be constructed with their edges flush with the adjoining surfaces of the landing area and in such a manner as to in no way interfere with the "all-way" characteristic of the field, thus making it possible for planes to land or taxi across the runways in any direction.

A careful engineering study should be made of all sites under consideration which should include a topographic survey on the basis of a one or two foot contour interval. This survey enables landing strips to be laid out in such a way as to reduce grading costs to a minimum, and, also, enables an accurate estimate to be made of total grading costs. It will also be of assistance in laying out the drainage system. After estimates have been made covering all items of conditioning, these may profitably be tabulated for the various sites and a comparison made upon the basis of the cost of the land plus conditioning cost.

A number of rating schedules have been suggested as a means of comparing proposed sites. Such schedules are of value only if they are used by persons experienced in the selection and development of airports, since obviously the weights assigned to the various factors in this schedule will vary with the use to which the airport is to be put. For example, the factor of accessibility would, undoubtedly, receive a much higher rating in the case of a terminal airport than it would if the airport were to be used for school or sales purposes.

Some important factors bearing upon the choice of a site are listed herewith. Not all of these will apply in every case and careful judgment should be exercised in the selection of the ones to be used and the weights assigned them:

1. Adequate area
2. Possibility of expansion
3. Freedom from obstructions
4. Meteorological conditions
5. Accessibility
6. Topography
7. Soil characteristics
8. Drainage
9. Surface
10. Ease of identification from air
11. Location with respect to lanes of air traffic

The responsibilities placed upon the Department of Commerce

by the Air Commerce Act of 1926 include fostering the establishment of airports and rating airports, with reference to the facilities provided. As a means of carrying on this activity the Department maintains a small force of airport specialists who travel about the country on fixed itineraries and are available to confer with municipalities, trade and civic organizations desiring assistance in the selection of airport sites. Advice is also given in connection with the development of airports in order that they may meet the requirements of the Airport Rating Regulations of the Department. This service is rendered without charge and is available upon request.

We cannot emphasize too strongly the necessity for careful airport planning. If we are to reap the fullest benefit from air transportation, these facilities must be developed in accordance with a carefully prepared plan — a plan that gives consideration to the present and future needs not only of individual communities, but also of groups of communities, of regions and groups of regions — a plan that is properly coordinated with other important transportation and economic factors. In other words, there must be coordinated planning.

DISCUSSION

S. R. De Boer, Denver: A prompt recognition of the character of an airport may save many cities from the reconstruction that has accompanied the surroundings of railroad stations. This reconstruction has led us through blighted residential districts, through blighted commercial districts to an acquiescence in the final industrial character.

The airport is the terminal of a line of transportation. The important lines are rapidly becoming established air highways, marked on the ground.

The airport is the focal point of these airlines.

Being the terminal of transportation lines, the airport becomes industrial in character. This character may be more or less camouflaged by placing it in a park or golf course or in a residential area. The fact remains, however, that even in attractive surroundings the airport is an accessory to transportation and no different in this respect from a railroad station or bus terminal.

The influence of an airport on the surrounding land must, therefore, be the influence any industrial or commercial undertaking has. This influence is not limited to the port itself, but extends to the lanes followed by the planes. The obnoxious part of this influence is expressed in noise and commotion. Both of these accompany all modes of travel.

The airport is the shipping point of passengers and certain light commodities. Both of these are collected from the nearby city and brought to the port by transportation lines. If passengers and commodities are to benefit in the highest degree by the rapid transportation in flying they must not be delayed unduly on the approach roads of the airport. This means these roads must be fast through routes, connecting the airport with the city's business center, with some of its more important subcenters, and with the industrial areas that may be expected to produce typical light air freight.

Loading and transferring of passengers calls for an airport station more or less like a railroad passenger station. Being the more urgent part of air transportation, the passenger part will require its station in the focus point of the connecting arteries. Freight transportation may require loading and packing sheds. The type of freight using airlines may be of the perishable kind, such as flowers, and sheds for packing and checking them may be needed.

The speed necessary for shipping these commodities by air may eventually lead to small factories making use of the frontage of an airport. The airport itself, being industrial in character, makes this use entirely logical. The airport frontage is hardly commercial in character, for commerce refuses locations that are not productive of potential buyers. In other words the open airport land is not good frontage for commerce, and the latter must be placed in the second tier of buildings.

In spite of the open land the airport frontage can hardly be called residential, because the landing and departure of planes, the movement of searchlights, the noise and commotion, is such that they would discourage residents, especially after air transportation has materially increased in quantity.

With the immediate surroundings of the airport dedicated to industry, the question arises whether some effort should not be made in the early stages to prevent the unsightly barns that front on most of our railroads. Some uniform design of easy construction should be adopted.

From the airport, traffic lines should run in several directions as already described. The matter of air lines for plane movement should be given early consideration, even before the location of the port. The overhead movement of many planes is not desirable for residential areas and may eventually become a nuisance worse than office and commercial buildings. It is therefore necessary to indicate on the plan of a city a series of wide lanes above which air traffic will be permitted. These lanes must be at least 1,000 feet wide and should be over industrial areas. Railroad lines may become valuable for this purpose. These lanes do not necessarily have to be straight, but must be direct to a certain degree.

The location of a city in relation to its air lanes may become more or less like its relation to its main railroad lines. These lines are best to one side of the city and especially to the side handling the greater amount of traffic. With these air lanes established above industrial property or above railroad lines, with traffic arteries planned in several directions and the immediate frontage of the port zoned for industry, the area left over can easily be designated. First, around the port's industrial zone should be a commercial zone, and around this an apartment zone, and beyond this an open residential zone.

The unusual modern character of air transportation should be reflected in an unusual treatment of the airport buildings and the developments fronting on it. If anywhere, city planners and architects have here the opportunity for showing ability in design.

Rapid transportation in its character of fast movement demands horizontal lines in buildings. This is already being expressed in many modern airport buildings which in design follow the spreading lines of the airplane.

Developments fronting on the airport should express a similar horizontal lined character. Buildings must necessarily be low, and this again agrees with the horizontal type.

In the building of the commercial districts that will spring up near the airport station city planners can use all their talent to create something less ugly than our present-day business districts which are nearly everywhere. The parking problem should be solved in these districts to come.

Today is the day to prepare studies for modernistic plans to take care of the surroundings of the ultra modern airport.

L. Deming Tilton, Santa Barbara, Calif.: The city of Santa Barbara is wrestling with the problem of locating an airport which

will be convenient enough to the central business area so that the air transport companies will use it. The most promising location is adjacent to a residential area, and the people in that area are bitterly opposed to the proposal, believing that an airport will ruin the residential quality of the whole district. As a consequence the planning commission has adopted a zoning ordinance prohibiting the use of any land in the city for airport purposes. We ought to be able, in our zoning, to treat airports which are used only or primarily for the landing and taking off of transport planes differently from those fields which are used for general aviation purposes. If the Department of Commerce can help cities to make this differentiation it will be possible for us to establish better zoning classifications with respect to airports.

We would like to be able to say to the objectors living in the residential neighborhood that the establishment of an airport as distinguished from a landing field would not appreciably injure property rights from a residential standpoint. Any facts as to the effect or influence of airports or landing fields on surrounding property and property values would be of the greatest help.

Major Young: The department regulations deal only with the airport's area, its accessibility and its equipment. In no way does the Department of Commerce undertake to indicate what activities may be carried on at an airport. That would be entirely a matter for local determination. As to the effect of airports on property value, I doubt if there are any definite facts available. Where an active airport is located in a high class neighborhood it produces an unfavorable reaction. Part of that is due to the airport management and to the pilots themselves. Part of it is just inherent in the nature of the operation. We probably have had more complaints from the Long Island area about the annoyance of aircraft than from any other locality in the United States. Two of the airports were there long before the residential area was developed. One was established just recently, and long after a residential area was substantially built up. It created an unusual condition in that the dust was terrific and the operation extended far into the night. I am still corresponding with the neighboring owners trying to get a very unsatisfactory condition adjusted. The dust has been largely eliminated by the use of oil, but the noise still remains. I do not know whether any muffling device will be practical or not, we can only say now that whether an airport should be the neighbor to a residential section depends somewhat upon the attitude of the

residents, but that higher class residential sections are not favorable to airport neighbors.

QUESTION: Will Major Young elaborate his ideas on the relation between air and rail transportation?

MAJOR YOUNG: It seems to me without question that air transportation will not supplant any other form of transportation. It will merely supplement existing forms of transportation and in that way become a part of the general transportation scheme of the whole country. I am inclined to think that scheduled air transportation of passengers can be more nearly likened to the service which is rendered by a few of the extra-fare trains. These are used by people who either must save time or want to travel in the latest known way.

There are many places in the country, (and the Denver region is one of them) where, because of the mountainous terrain, air transportation is proving very valuable and is being used extensively. It is also being used for transcontinental trips. A service like that will set up a demand for itself, but it will never replace rail service.

JOHN S. CRANDALL, Urbana, Ill.: I would like to supplement what Major Young said about the railroad and water articulation with the airways. I noticed in Germany last summer that it was possible to take a plane from one large center to another, say from Berlin to Cologne, and then get service by railroad or waterway to a local stop. These connections are published, and there is usually about a fifteen minute wait after you get out of the plane before taking your local train or boat. I believe there are some 260 such services in the German Republic. It seems to me that this is one of the things we should aim at in this country. What good does it do us to hop from Chicago to Denver and then not to be able to get to a point within a hundred miles of Denver for five or six hours?

QUESTION: Would a large body of water near an airport be a detriment?

MAJOR YOUNG: I think a location near a bay, for instance, is very desirable. The San Francisco Airport has the advantage of permitting the operation of both land and seaplane type of craft. The combination of the two is very desirable from every point of view.

QUESTION: Will passenger terminals be located in the future at the field or at some downtown place connecting with the field by motor transportation.

MAJOR YOUNG: I think without question that passenger terminals will be located at the airport. It is a logical place for them for about the same reason which determines your rail terminal facilities. It is the point of arrival and departure of passengers, and they are obliged to go there to board the plane or they are met there by friends or relatives. Throughout the country at the larger terminals the most serious consideration is being given to adequate administration buildings which incorporate a suitable waiting room and other facilities of the kind that go with it.

QUESTION: Is it advisable to permit private manufacturers of airplanes to establish their factories adjacent to airports, particularly if they are municipally owned, in order that they may use the airport space for proving grounds?

MAJOR YOUNG: The answer might vary with the locality. At the Chicago Airport the ordinary scheduled transportation and the more comprehensive taxi service which is operated there have already congested the port. The use of the space for test purposes by airplane factories would very seriously complicate the situation. In addition to this objection there has been agitation against the initial testing of aircraft in areas which are built up.

On the other hand, there are airports located in the vicinity of communities where an additional factory activity would not cause any serious inconvenience and would in fact bring about a welcome business activity. In such cases the use of the airport for testing purposes should be under effective control. It can only be done at times when other activities are limited. Instead therefore of attempting to suggest any rule applicable in all instances, I think the answer to the question should depend upon the facts in each case.

QUESTION: Is there a tendency to change the location of airports from points at considerable distances from the city's center to closer in location?

MAJOR YOUNG: I can't say there is any such tendency, but we have found considerable dissatisfaction over the location of distant airports, most of which would have been established closer in if there had been more knowledge of the facts. The difficulty in most cases is that the money has been spent, the property acquired and

improvements made, and, if it is a municipal airport, the city is reluctant to abandon it and spend money for another. Cleveland has an excellent airport some distance out. It is now giving consideration to establishing another one on the lake front within ten or twelve minutes of the immediate downtown area. It would not dispense with the existing airport. Rather, it would be used for various miscellaneous activities and for auxiliary use when the lake front airport could not be used.

Des Moines, Iowa, acquired by lease and option an area about seven and one-half miles from the center of the city. They recently voted a bond issue to acquire an airport without specifying, (and purposely so), the airport location which they are now using. Since they have not spent much money on improving the present location, they may conclude to abandon it and acquire one closer in.

John Nolen, Cambridge, Mass.: I may dismiss entirely all that part of the subject which deals primarily with what Major Young has had to say, but here is a point with reference to the authority that should make the decision as to the location of a municipal airport. To whom should it be delegated? Who should have power to say that after all, in this complex situation, it should go here or there? The airport is primarily a part of the transportation system, as important today, perhaps, as the railroad terminal was fifty years ago. The airport is also a functional area which must be related to all the land serving the community, so that each part, and the whole thing together, shall most efficiently produce all those good things which the community ought to provide for its citizens; that is, the airport must take its place in a complete and reasonable city and regional plan. To make a decision which will produce this result, as Professor Hubbard points out, takes knowledge and skill. It is primarily the task of the city plan commission or of whatever representative of the community makes, interprets and defends the city plan. It should not be evaded, nor dissipated among a number of authorities with only partial responsibility. Related to this question is one which is not covered in Professor Hubbard's paper, but to my mind must also be discussed, and in close relation to it; that is, the administration of the airport. The symposium now being conducted in the City Planning Quarterly throws light on this aspect of the question.

The principal questions which I believe should be discussed by the Conference, so far as the Harvard contribution to this subject has been made, are those contained in Chapter II of the Report.

It is a discussion that we scarcely get at all; that is, the relation of the airport to the city and to the region. While we must know all of those things that are connected with the airport as an airport, we are not particularly qualified to assist them or to speak of them with authority. But we must represent this other subject, that is, the relation of the airport to city and regional planning.

The first thing in his summary of the system of airports is the reference to a large intown municipal airport as being to air transportation what a union station is, in a way, to a railroad system. "It should be within fifteen minutes' time of the center of the town. . . . It should not contain any storage or repair facilities. It should probably not be open to private planes. In every way its efficiency should be kept high and its area low."

Then, again, a point of the utmost importance to those interested in plan making or in the administration of planning projects is that an existing park in the heart of a city or elsewhere is not an opportunity for the location of an airport. A park serves its own functions, which cannot be served by anything else, and it would not be good business to gain an airport by losing a park. Remember also in considering this or any other scheme for the distribution and organization of airports that, like the park, the airport must be a continuous area, not cut through by roads. Therefore the airport must be studied along with the main highway system, so that it will not interrupt main line traffic, and not unnecessarily occupy areas which would be more efficiently occupied for some other use. The paragraph on "Transit" is particularly well put. Professor Hubbard points out, "We are seeking proximity in time rather than proximity in space between the airport and the center of the city. The better the transit facilities, the farther away may the airport be." That points out the necessity for some kind of planning other than mere airport or airway planning.

"The airport should be easily accessible from the main highway, but it need not abut directly upon it for any considerable length." This point is again a city planning proposal, related to the Conference discussion of parkways and free ways, or whatever they may be called. "More important, the land abutting upon the highway has high residential and other value which is not an asset to the airport as such." There is a question in my own mind of whether we have not got more land along the main highways, whatever we may call them, than we know what to do with, because they have become so unsuitable for residential use. Is not

the airport an opportunity to use a great stretch of land and its frontage on the highway for something that requires no access, no light and no air? In discussing the relation of the airport to recreation, the paper points out that an airport is not a legitimate element in a public recreation system, and the value of airplanes for recreational use is a small part of their value, and depends largely upon novelty, which will pass. The recreational areas, therefore, have little which they can offer of advantage to aviation. They cannot be used as intermediate landing fields and remain suitable as parks or public open spaces for recreation.

I agree heartily with Professor Hubbard's conclusions with regard to zoning for airports. It would not be possible to create a special zone for airports. This would involve definitely predicting in the zoning plan airport locations. Professor Hubbard says that ordinarily the airport would be located in a residential district, because here are the greatest areas, the least intensive development, and the fewest streets. I am not sure that the last statement is true. I like the conclusion that the airport should be considered as a use normally excluded from residential districts, except that the zoning board of appeals could grant specific locations within residential zones after receiving in each case proof of convenience and necessity. In other words, the airport is handled apparently as proposed here, very much as special telephone buildings have frequently been handled.

I should like to add in conclusion the fact that our opinion, our policy and our action must be largely determined in this matter, especially of the location of the intown or central airport, by our notion of what part aviation is now playing or is going to play in the total national system of transportation—whether it isn't primarily a long distance form of transportation, and that the questions of time and location of the airport of fifteen minutes is in relation not to an hour of air travel, but in relation to many hours, or to parts of a day, or longer periods. Aviation involves inevitably a coordination of transportation facilities, as we are not expecting ordinarily to use airplane service as a means of getting to our front door than we are to use the railroad train for that purpose. There is the same kind of relation to this terminal, the urban airport terminal, that there is in connection with the city railroad terminal. In the beginning the railroads pushed with the utmost energy, unfortunately for them and their success, to central locations, and in so far as relocations have taken place with rare excep-

tions they have been steadily moving away from those central locations.

Major Young: I did not make notes as Mr. Nolen went along because I found myself concurring with nearly all of his remarks. I have become somewhat familiar with the study that was made for the Harvard report, and know the exhaustive manner in which it had been handled. There are one or two things which occur to me. Mention was made of the desirability of locating landing facilities over the rail terminal area by means of a superstructure. Perhaps that will come in the future. It offers, however, some serious problems of light and ventilation of the rail area which may be difficult. Most terminal facilities are located in industrial areas, not usually free from obstructions and having usually rather unsatisfactory air conditions. It is also a hazard, both to aircraft and to the city, to effect a landing in the immediate built-up business section.

Something has been said of the necessity for establishing an airport in the residential area, and there is a vital question in this connection which the courts are now considering. One court has, I believe, decided that navigable air space does not extend below 500 feet, and that it is a trespass of aircraft to make use of the air area under this elevation. If this decision stands, the airport will need to be extensive enough to permit departing aircraft to rise to an altitude of 500 feet before crossing the boundary of the airport, or airport owners will need to acquire by purchase or by eminent domain, or by lease from the adjoining property owners, the right to use the air over their property up to 500 feet.

The Pennsylvania Legislature had before it, I understand, a proposal to enact a law setting up as navigable air space the area above 200 feet over the land or improvements thereon.

There is no question in my mind but that the location of airports in any community is a matter which should be given serious consideration by the planning commission. There are some phases of airport establishment which call for technical knowledge of persons familiar with the limitations of aircraft, but after a site or several sites have been selected as suitable, then, I think, it should be the task of the planning commission in any community to fit the airport or airports into the physical plan of the community.

W. E. Stockwell, El Paso, Texas: Major Young has said that airports under a new traffic regulation which is under consideration will have to be a mile and a half apart.

In El Paso the nature of the terrain limits airports to one sector of the city. We have a municipal airport which will abut on the army airport, and one mile from there is a private airport. Where conditions are such that airports must be either close together or must be located a long way out of the city, what effect will that have on their development and on their rating?

Mr. Nolen: My observation is that the regulations of the Department of Commerce are constantly changing and adjusting themselves to conditions as they arise, so that there seems to be nothing in the particular statement that has just been made and the reference to the Denver situation that would represent any final or formidable objection to the highest rating of the airport. I understand that the Denver Municipal Airport is rated A-1-A.

Robert Kingery, Chicago, Illinois: Objections to airport and airplane noises can be heard in every part of the country promptly after the establishment of an airport. Then people become used to it as an every day or every hour occurrence, and there are few protests. In fine residential areas, particularly, there are always objections to anything noisy. A year ago two very busy airports were established to the west of some of the finest North Shore residential towns near Chicago. Immediately after flying began there came to the village boards many objections loud and long. The noise was a nuisance, disturbed children's sleep and interrupted our conversations. Generally the pilots observed all rules as to height of flying, and there were no measures for the villages to take. Long before the village boards so determined, however, the people became accustomed to the noise, which, after all, is not constant and is rarely a nuisance, and they are not objecting as they used to. No one in these towns notices the planes any more, except as a rare matter. With improvements in motors, in lines of the plane and in devices to reduce propeller noise, objections will be greatly reduced in even the highest class residential areas.

It is rather closely related to the question to bring up for suggestions and comment the plan drafted by the Regional Planning Association and others for handling traffic to and from the Curtiss-Reynolds Airport, which is to have the National Air Races in August. Six highways lead to the airport, which is about sixteen miles from Chicago. Our scheme is to reserve adequate area adjacent to the airport on which to put the automobiles when we get them there, and so we have arranged parking space for 32,000 cars.

We expect about 20% of these cars to arrive between eleven and

twelve in the morning, about 33% between twelve and one and another 33% between one and two. Five of the six routes are to be devoted to general traffic to and from the airport. During the peak hours these will probably automatically become one-way traffic routes. The sixth road, which leads from the nearest railroad stations, is to be devoted to what is termed emergency traffic. There will be taxicabs, buses, ambulances, official cars and any other emergency traffic to and from the airport. All six of these roads, unfortunately, are only two-lane roads at the present time.

We recognize that the key to the whole thing is what happens right at the parking place. We believe we can accommodate at the end of each of these ten lanes of traffic (two lanes on each of five routes) as many as 1,000 cars an hour. Running cars from each lane into five to eight "chutes," having the ticket sellers sell the ticket to the air races and getting them out of the "chutes" toward a parking space will take about fifteen seconds on the average and a maximum of twenty seconds each. We have the advantage of trying this out on July 4, 5 and 6, when a minor air race is being given at this airport, on which occasion we will have at least a skeleton force of guides, ticket sellers and police in operation.

It isn't usual that a Chicagoan asks for advice, but we certainly want this thing to be successful, and will appreciate both comments and suggestions.

H. B. Steeg, Indianapolis, Ind.: On Decoration Day we had 58,000 machines parked inside the Indianapolis Motor Speedway. There are five roads leading from Indianapolis to the Speedway, which is located about seven miles northwest of the city. Since the Speedway race starts at ten o'clock in the morning, usually the peak of the traffic has reached its destination at the Speedway and is parked by nine o'clock. All of the five roads are held to one-way traffic from four o'clock in the morning until noon. The race ends at three o'clock and everybody tries to get home at once. At noon the roads revert to one-way streets leading into town and there is one route reserved solely for buses and taxicabs.

Perhaps the biggest help in handling the traffic is the fact that for two days before the race general admission tickets to the Speedway are sold in all the drug stores and downtown hotels. Ninety per cent of the general admission tickets are sold there. Then on the day of the race men are stationed from a quarter of a mile from the Speedway up to the very gates for the purpose of selling general admission tickets. There are about a hundred men on each road.

A machine comes up and a ticket seller hops on the running board and stays on that machine until he has completed his sale. There is no slowing up of traffic for the sale of tickets. It is also a big help that West Sixteenth Street, which passes the main entrance to the Speedway, accommodates four lines of traffic, and the police keep traffic moving at a good rate of speed on this highway.

William J. Fox, Los Angeles, Calif.: Mr. Nolen in his statement that the matter of airports was the proper function of the city planner never spoke a greater truth, because the very potential possibilities of air transportation may entirely upset or disorganize all city plans just as completely as did the automobile. Cognizance should be taken of aviation in all its ramifications. We in California have a very effective laboratory for research locally.

The day I left for Denver we had 56 airports in operation in the Regional Plan area in the County of Los Angeles. You can readily surmise this means a lot of air activity. It would be the rankest folly for us to attempt to plan our region without taking into consideration the facilities which will be required for the healthy development of aviation as an indispensable means of transportation. To date reliable statistical information and data as to forecast on aviation requirements are greatly lacking.

To delve into the fundamentals and acquire the best information possible we organized in Los Angeles County an Advisory Committee on Aviation and Aeronautics, to advise with the Regional Planning Commission on such matters, and to work with our technical staff. This Advisory Group is composed of fliers from the Army, Navy, transportation companies, civilian fliers and a representative of the Department of Commerce. The matter of aviation facilities is coordinated with our plans for highways, zoning, recreation, subdivision of land, etc. All are worked up and designed coordinately and concurrently. It is proper that they should be, for the very distribution of population is affected. The importance of the location of highways may forever eliminate the possibility of setting down an airport in its most ideal location.

Someone mentioned at this conference the possibility of landing planes on roofs of buildings or on landing stages. While this is recognized as a possibility, the development of aircraft must of necessity progress a lot further before this method of landing and storage can be safely developed.

The Aeronautical Advisory Committee, of which I spoke, made some experiments in our behalf in this regard. The pilots made

theoretical landings upon buildings in the business center of the city of Los Angeles, and, in general, went through the manœuvers necessary to negotiate aircraft, assuming there was such a landing stage in the downtown section. The influences of buildings of various heights, a variation of temperature from hot pavements and the surrounding atmosphere, and the irregular skyline caused by different heights of buildings, caused such disturbances in the air currents that the experiment disclosed emphatically that such methods of operation, under the present aircraft equipment, were extremely hazardous. One pilot almost lost his life in the experiment.

Some mention has been made regarding the Department of Commerce regulations in grading airport facilities. In our judgment these standards should be taken as minima. The design of airport facilities, both as to adequacy and character, in the County of Los Angeles go far beyond those of the Department of Commerce. The basic plan contemplates major air terminals of a minimum of one thousand acres, which are served by local airports at intervals of not more than ten minutes of surface transportation through the area served by the larger air terminals mentioned. The landing area and take-off area at the air terminals are segregated to facilitate traffic and to contribute to the elements of safety.

We recognize that it is extremely important to design the air transport fields in such a way as to make the landing area entirely separate from that where planes are taking off.

From surveys we have made it is estimated that in 30 years there will be a ratio of 500 persons per airplane, and in 70 years 100 persons per airplane. The ratio that now exists is 2,500 persons per airplane, and at this time last year the ratio was 3,750 persons per airplane. Five years ago the ratio was 15,000 to one airplane. It is, therefore, indeed proper to say that the location, design, and the general service rendered by airports are all properly a function of the city planner.

George W. Braden, Pasadena, Calif.: The managers of the various ports along the Pacific coast all say that they are making increasing provision for recreation at airports for the convenience of plane passengers. Tennis and various quick service recreational opportunities have been suggested. At Oakland and at the United Airport of Los Angeles, and at two other ports, the management suggested that they might cooperate with the recreational depart-

ment of the city and make available recreational opportunities for the large number of people who visit the airport to see the craft in operation. Is there any evidence that it is unwise to provide such recreational facilities as golf, extensive waterways and large batteries of tennis courts in the near vicinity of an airport?

Mr. Nolen: Although I cannot answer in the name of the Harvard School, I have no hesitancy in answering from my own viewpoint. Certainly the use that you propose is not at all related to taking an existing public park and diverting it to airport purposes. I see no objection whatever to supplementing the airport with opportunities for play any more than there would be in providing pleasant social facilities at hotels. I understand that in Rome and Berlin and other continental cities there have already been established amusement facilities in the neighborhood of airports.

RECREATION PLANNING IN WESTERN CITIES

George W. Braden, Western Representative, The Playground and Recreation Association of America

Whatever the motive, man for some 6,000 years has been concerned to a very large degree in creating cities where the people therein could barter, commune, develop the arts and crafts, delve into the facts and mysteries of science and religion, enjoy the exchange of ideas, witness contests of sports and the combats of man or beast and "strut" over those of less favored circumstances. Through many centuries, cities were planned, placed and developed with security from opposing natural, animal and human forces as their chief concern. The early cities of China, Egypt, Babylonia, Syria, Palestine, Rome, Greece, Mid-Europe and America were walled cities and compactly built.

With the coming of greater security and longer periods of peace and the increased size of political units, the barriers against the antagonistic forces have moved out from the gates of the city to the gates of the nation. Older cities have proceeded to flow beyond the earlier borders and the idea of expansion has rapidly flowered with the last decade, showing a tremendous decentralization movement affecting the placing, planning and developing of our newer American cities.

What the 1930 Census is Showing.—With an estimated Federal population of 122,500,000 in the present census, the national rate of growth will have been about 15 per cent. The census shows the urbanization of the nation is continuing in increased measure and the nation's population in the larger metropolitan districts is moving out into the suburbs at a surprising rate. Manhattan, the older district of New York City, has been losing population at the rate of about 65,000 per year, a decrease of 27.3 per cent, for a number of years, while the borough of Queens on Long Island, where there is plenty of room to spread out, shows a gain through the ten year

period of upwards of 600,000, or 123.9 per cent. The little village of Jamaica where I lived some three years has increased more than ten fold. Chicago appears delighted with a population of 3,373,753, an increase of 672,048, or a gain of 24.8 per cent. Evanston, however, gained 65.8 per cent and Berwyn gained 232.2 per cent.

Philadelphia, with 1,984,779, shows a gain of less than 80,000.

Detroit, with 1,564,397, gained 570,719, a substantial gain, while Dearborn, the "flivver" city, jumped to 50,000 population, a gain of 1926.7 per cent.

Los Angeles jumps to fifth place in the nation with a population of 1,231,730, a gain of 655,057, or 113.5 per cent, but Beverly Hills, a suburb, goes to 17,428, a gain of 2485.8 per cent.

Cleveland hoped for 1,000,000 population but was given 901,482, an increase of 13.1 per cent. Cleveland Heights, however, gained 288.3 per cent.

We now have five cities of upwards of a million population and nineteen more in the 100,000 class. The nation's rate of growth is slowing down about 1½ per cent a year. Some authorities see the time in the near future when the population of the country will be stabilized at about 150,000,000. The human family has doubled in the last century and is now well over two billions.

The People Seek Open Spaces.—Modern working conditions, shorter hours of labor, better highways and rapid transportation and communication have made it possible for ever-increasing numbers of people to escape the biological hazards and civic influences of the larger cities and seek the suburbs or the open country for both permanent residence and vacation or the longer period of retirement. Much progress has been made in the decentralization of commerce and industry and the development of suburban and garden cities like Longview, Washington, Palos Verdes out of Los Angeles, and the larger suburban population centers like Pasadena, Berkeley and San Jose in California. I was surprised at the amount of overflow in Paris and Rome. Even the old city of Bologna has bulged way beyond the old city walls. Man gravitates towards trees, grass, streams, flowers and freedom as water flows down hill.

Recreation Planning in Western Cities.—Recreation planning in our western cities has been concerned with—(1) saving the beaches and waterways, (2) creating regional parks and boulevards, (3) securing extra-urban parks and wilderness areas, (4) securing larger areas for libraries and civic centers, district "school-park-playgrounds," neighborhood play parks, open spaces in business and industrial zones and family service recreation parks.

The special studies of present and needed areas, structures and facilities made during the past two or three years at Los Angeles, San Diego, Long Beach, Portland, Seattle, Sacramento, Pasadena, Riverside and Denver can be secured direct from the local Recreation Boards or Planning Commissions. I have here on the table for your inspection copies of the reports from Seattle, Portland, Riverside, Denver and Sacramento.

Recreation Planning Based on Program.—Recreation planning is a matter of making possible the securing of healthful and joyous play, sports and recreation in leisure for all ages, classes and conditions of people. Areas, structures and facilities will be needed, secured, developed and maintained on the basis of program rather than program on areas and facilities. Social science is rightly concerned in building social and civic check dams, controlling and preventing social and racial distortion and degeneracy. The traditions, capacities and tendencies of the past should only be accepted and continued as scientific research and sound philosophy make them of service to modern life and living. Program will give full consideration to the great urges, for contact with natural forces and growing things, contemplation of natural and created beauty, self-expression in arts, language and literature, physical activities and competition in games and sports, experimentation in science and social contact.

How Should We Rate Cities?—Opinion differs as to how we can and should compare and rate cities in the provision for the people's play. Personally, I have on request frequently rated Western cities by what I call a six point rating basis, which is as follows:

(1) Total area of open spaces—standard of one acre per hundred

persons in the urban district. Spokane, San Diego and Pasadena are among the Western cities surpassing this standard while several others are rapidly approaching it.

(2) Types of areas available—
   (a) Children's neighborhood play park—municipal or school site—size five acres and up—distance of service, one-quarter to one-half mile, depending on local conditions.
   (b) Youth service district playfield park—municipal or high school site—size twenty acres and up—distance of service, one-half to one mile.
   (c) Family service recreational park—fifty acres upwards—located preferably on the borders of the city.
   (d) Down-town adult service landscaped areas in commercial and industrial zones—number depending on local conditions.
   (e) Special activities areas—golf courses, stadiums or enclosed athletic fields, bathing beaches, older people's recreational areas, regional service municipal plunges.
   (f) Parkways and extra-urban wilderness areas.

(3) Total capital outlay and annual operating budget.—(a) 3 per cent of total assessed value for total outlays. San Francisco, San Diego, Pasadena and Colorado Springs are among Western cities exceeding this standard. (b) $2.00 per capita annual operating budget. Seven Western cities have exceeded this standard.

(4) Type and balance of features offered.—Landscaped areas, golf courses, beaches, waterways and plunges, play courts for tennis, basketball, volleyball, handball, roque, bowling, etc.; major sports fields for baseball, football, soccer and hockey; gymnasiums, auditoriums, special gardens, libraries, club houses, field houses and community centers, hiking trails and bridle paths, retreats and camps.

(5) Balance of program offered.—(a) Social arts, parties, clubs, dancing, dining. (b) Art participation and appreciation of music, drama, painting, sculpture. (c) Contact with nature crafts. (d) Hand crafts and tinkering groups. (e) Major

sports—highly organized football and baseball, etc. (f) Minor sports—basketball, volleyball, tennis, etc. (g) Aquatics—sailing, rowing, swimming, diving. (h) Gardening and hobbies. (i) Linguistic arts—debate forum, essay and playwriting, current events.

(6) Technique and efficiency of management and control.—Factors for consideration include manner of appointment, length of service, freedom from political control, adequacy of compensation, durability of service and training methods.

In Conclusion.—In planning for the people's play it is not enough to furnish recreation areas and facilities, as important as they are. Adequate leadership and direction are necessary for securing a proper return on the investment in terms of physical fitness, health, character and good citizenship. Public recreation service management will give proper attention to securing land, structures and facilities, finance, office administration and personal efficiency, balance of program and thoughtful contact with the public.

Nation-wide studies would seem to indicate that cities have made better average progress where the service is maintained under a Board or a Commission with legal powers. Recent studies show that most Western cities need twenty cents on the hundred dollars or two mills annual tax budget if they are to establish themselves on a "pay as you go" basis, avoiding periodical bond issues for the purchase and development of land and structures. The program offered will stress "everybody in the game and a game for everybody" and increasingly get the people out of the bleachers on to the playing field. It should be increasingly possible for families to find satisfying recreation together. Public recreation facilities should combine beauty with utility and utility with beauty. Man's composite nature reflects at certain times a heart hunger for contemplation of the beautiful and the restfulness of quiet waters and the deep flowing stream; and at other times the need for zestful, buoyant participation in physical and mental activities.

In closing, may I quote President Hoover, who says: "This civilization is not going to depend so much on what we do when we work as what we do in our time off."

PLANNING THE NATION'S PARKS

Horace M. Albright, Director, National Park Service, Washington, D. C.

Planning in the National Park Service is very different from the planning that most of the members of this conference engage in. I can perhaps say this with complete conviction because, by virtue of my position as Director of the National Park Service, I am, under the law, a member of the National Capital Park and Planning Commission of the City of Washington. I am engaged in both types of planning, although I must confess that my contribution to city planning as a member of the National Capital Park and Planning Commission is extremely small. We have a trained staff, led by Mr. C. W. Eliot, 2d, who is here with us tonight, and this staff does the real planning work for the Commission. We meet and pass on the plans, and some of us aid in legislation, while others, like Messrs. Olmsted and William Delano, make exceedingly important technical contributions to the planning program.

In city and regional planning, as a general rule, the most difficult and serious problems arise from the existence of old improvements, narrow streets, haphazard town layouts, even poorly located parks. The whole thing is complicated usually by private ownership hard to extinguish, and private property in many cases while apparently and actually susceptible of quick and fair valuation becomes valuable when wanted to carry out a new plan, just as a worthless old cow takes on the value of a young thoroughbred when it is killed by a train.

Condemnation then comes in to delay progress and stir up animosities that often remain to plague the planners long after the legal proceedings are over.

At any rate, city and regional planning involves much destruction of existing structures, readjustment of roads and streets, and

restoration of natural conditions through planting. Restoration is one of the important ends if not the most important of such planning.

In the national parks we have natural conditions present on a tremendous scale. It can be said generally that the parks are untouched wilderness areas, although there are enough old developments here and there to give us some real city planning problems.

Nevertheless, stating our problem broadly, our planning job involves studies that will find a way to permit the intrusion of roads, trails, hotels, camps, and other public facilities without impairing in any serious degree the primeval status of the natural features, for the preservation of which the parks were originally established.

The first and most important duty of the park bureau is to preserve the national parks as nearly as possible in their natural state for all time to come. The duty of making them accessible is secondary and almost incidental. The forests are protected from fire and insect infestation, and disease is kept out when a treatment for it is known. Grazing of livestock is permitted only as a measure of cooperation with private land owners whose holdings we have not acquired, or, in the case of horses, where these animals are needed by tourists. Grazing is an unimportant item now in national park administration. Lumbering operations, the quarrying of rock and stone, and mining operations are not permitted. Destruction of lakes for water power and irrigation is, of course, contrary to park policy, although in a few instances irrigation and domestic water supply storage have been permitted by Congress because, in its judgment, communities absolutely had to have the water in order to survive. Summer homes, and in fact all forms of purely private use, except temporary seasonal camping, is unauthorized and not permitted.

On the other hand, the parks, or rather the most spectacular sections of them, the great outstanding features which brought them national park status, must be made accessible to all our peo-

ple. This means roads, trails—footpaths for walkers and bridle paths for horse and mule riders—hotels, lodges, camps, stores, and gasoline stations, also government headquarters and ranger stations.

The roads, trails, camp grounds, government buildings, water and sewer systems, power plants, telephone lines and directional signs are built or installed by the National Park Service under Federal appropriations which are made annually.

The hotels, lodges, stores, gasoline stations, and other facilities are installed by concessioners, or operators, as we call them, who conduct their business under franchises issued by the Secretary of the Interior, which run, as a rule, for twenty years. We do not give a franchise to everybody who applies. Our policy is to select an operator to supply a given service who is financially able to build the type structures we want and give therein the kind of service we prescribe. When this operator is found and his financial program is declared by competent advisers to be satisfactory, the franchise is granted. It is a preferential franchise that he gets, that is, he has the first right to give all the kinds of service authorized by his contract, and a competitor cannot be admitted to the park unless the operator fails or refuses first to build his plant as directed by us, or fails or refuses to give the kind of service we prescribe.

You can readily see that with this type of franchise and under this policy of concession contract we can get what we want in the way of compliance with our landscape preservation plans and our service demands. We do not have to wait to settle an argument as to which of several operators we are to call upon to build a new structure or furnish a new service. We contract the service and the rates so the public is assured of reasonable and fair treatment. We do not let an operator make inordinate profits, but we do want him to make a fair return on his invested capital. We have recently required all operators to submit to us a five-year building program with accompanying financial set-up. The program and plans now before us call for the expenditure of several millions. Among the

five-year budgets is one calling for a complete new system of tourist accommodations on the south rim of the Grand Canyon, including a new El Tovar Hotel and new lodge.

You are interested in the personnel and procedure involved in handling national park protection and planning. The patrol of the parks is done by park rangers, most of whom these days are college graduates. The planning and control of intrusion, if that is a good word to use, of man-made structures is by our landscape architectural division, which is composed of twelve landscape architects headed by a chief landscape architect, Mr. T. C. Vint, who is attending this conference with one of his assistants, Mr. C. E. Peterson, Jr. They will be available at our exhibit here in the hall in case you wish to ask them questions about their work.

When the government, through the National Park Service, wishes to plan a headquarters development, the landscape architects with the park superintendents select the site and tentative layouts are drawn up. These are worked over until all administrative requirements are adjusted to the views of the landscape architects. Their aim, of course, is to let the superintendent's office, the postoffice, the museum, if there is to be one, and other public buildings be quite prominently located in order that they may be easily found by the traveling public, and they depend on materials of construction to harmonize them with their environment. Residence buildings, utility groups, such as shops, barns, warehouses, etc., are hidden entirely from view wherever this is possible. Ranger stations and other units are handled in a similar manner.

Road routes are first selected by park superintendents and landscape architects, and then engineers of our own bureau and of the Bureau of Public Roads are brought in for the surveys. The engineering plans are subject to approval of our chief landscape architect, who also designs the bridges, the engineers cooperating in figuring weight and load factors, cost, etc.

Road contracts contain clauses requiring careful treatment of rights of way, cleanup of roadsides, protection of trees, elimination of detours, and old roads. They also require in places where ex-

ceptional protection measures are necessary to guard the landscape what we call Type B construction; that is, all rock and dirt must be moved by hand after careful shooting and end-hauled to especially selected dumps where it may be side casted.

Some beautiful road construction work is being done in the national parks, and this summer we are opening some new roads, which I hope you can see before going home.

Only next week, with twenty governors of our States, we are going to Zion National Park to open the Zion-Mt. Carmel Road, probably the most spectacular and difficult piece of road engineering ever undertaken.

Trail construction is just as carefully planned as the road building.

Even sewer and water systems designed by the U. S. Public Health Service engineers must be passed on by our landscape architects.

Concessioners' buildings can be built only on sites selected by our superintendents and landscape architects. They plan the area to be developed by hotels, camps, stores, and other utilities of this public character. The operators then have their plans drawn by competent architects and submitted to our landscape men. Wherever possible our architects and theirs work over the plans as they are developed, so when completed they are likely to receive our early approval.

Everywhere we require the use of native stone and timber for national park building materials.

Thus our control is, theoretically at least, complete.

It cannot be denied that occasionally we get ideas as to what an operator should build that are quite at variance with his financial set-up, and compromises are necessary. Nevertheless, at the present time, results are very satisfactory indeed, and I see no reason why, in the future, there should be any deviation even in slightest degree from our established practice.

While our course of procedure for keeping new developments from intruding upon the primitive features of the national parks

seems to be pretty nearly puncture proof, the job of getting rid of old structures erected in the days when the Army handled some of the parks and when our own Service was very young is more like our city planning tasks. For instance, at Yellowstone headquarters we have old Fort Yellowstone, built by the Army between 1890 and 1910, a typical western Army fort, not even very picturesque, yet involving an investment of $1,000,000. We have a hotel and transportation plant there built in the early 1880s and which cannot be duplicated for $1,000,000. Other utility structures probably are worth $500,000. The whole development is utterly out of harmony with the park landscape. To us there is sentiment that to a great extent robs it of its unattractiveness, but to the architect, landscape architect, and others the situation is terrible.

We have called in outside assistance to help us get a workable plan for meeting this problem, and we were especially fortunate in having Gilmore D. Clarke, of the Westchester Park Commission, offer to come to Yellowstone with our chief landscape architect and develop a new plan that looks very practicable and certainly very attractive. Only last night we discussed this new plan and what it involves in money and rearrangement of operations.

In Yosemite National Park, especially in the Yosemite Valley, we have had some very difficult problems to solve. Here we have what Mr. Olmsted calls "the plunging view" to keep in mind all the time. From Glacier Point, 3,200 feet above the floor of the Valley, everything below is distinctly visible. Even a child walking can be seen from this point. All developments in the Valley have to be harmonized with the forest and rocks so they are not conspicuous to the traveler along Valley roads and trails, but also they must be located and treated with the "plunging view" from Glacier Point in mind.

To help us in this problem we have had the public-spirited aid of Mr. Olmsted, Mr. Duncan McDuffie, President of the Sierra Club, and Mr. J. P. Buwalda, a noted geologist and lover of Yosemite. These men comprise a special committee who are giving much time to Yosemite's landscape difficulties.

We have been fortunate in having the good will and interest of

many distinguished landscape architects and planners, and architects as well. Mr. Ferruccio Vitale, of the Fine Arts Commission, solved a perplexing bridge problem in Glacier Park, and has helped in the Yellowstone headquarters plan. Mr. Harold Caparn, of New York, has assisted at Washington. Mr. Charles Eliot is going with me this week to Rocky Mountain Park to study new boundary lines. So is Gilmore Clarke.

We are taking over George Washington's birthplace at Wakefield, Virginia. We are to build a house there on the site of the house in which the first President was born. It will be a house of the period. Our planning work there is being done by Charles Moore, Chairman of the Commission on Fine Arts, and Architect Edward W. Donn, of Washington.

We are directed by Congress to take over the Battlefield of Yorktown, Jamestown Island, and perhaps parts of old Williamsburg and make there a great Colonial National Monument. Arthur C. Shurtleff is the landscape architect for Mr. Rockefeller, and he has already given us valuable assistance in several directions. These are only a few of the cases where our Service has the advantage of brilliant advice of public-spirited men in the fields that interest us who are in this conference.

I wish I had time to tell you about the general planning of the Service, its efforts to round out the park system, its study of new areas, its educational branch and its planning, and our engineering division and its preparation of programs for miscellaneous development of the structures necessary "to make the wheels go 'round." Then, too, I would like to tell you some time of our planning of traffic control in the national parks, the problems of summer crowd handling, and the totally different difficulties of winter. Finally, let me thank you for inviting me to this interesting conference. It has been exceedingly worthwhile for me to come. The contacts made here I shall always cherish. I congratulate you on the success of the conference. The country is to be congratulated that such conferences are held for its benefit. I hope the National Park Service will always be regarded as worthy of association with such a fine group of men and women.

CONFERENCE OF PUBLIC OFFICIALS ON THE VALUE OF A PLAN COMMISSION

William T. Jackson, Mayor, Toledo, Ohio: We have had a plan commission in Toledo for several years, but not until 1922 would the city council provide money for plans or surveys. It happens that I am a general contractor, and if a general contractor is to do any construction work he must have a plan. So city planning appeals to me, and when I became for the first time a public official, as director of public service, I felt that to do a successful job in a growing city, where more or less remodeling must be done, we should have a definite plan. I prevailed upon our city council to set up the sum of $15,000 with which to make a start. Ever since that time there has been anywhere from $10,000 to $15,000 in the annual budget for planning.

In 1923 Toledo made a contract with the Harland Bartholomew Organization to make a complete city plan, including a major street plan, a traffic survey, a port survey and a plan for transportation and recreation. They also prepared for us our zoning ordinance. We have not put these plans on the shelf, but we are using them in guiding the very substantial growth which Toledo has had in the last few years.

One of the most interesting projects which concerns not only Toledo but other cities in Ohio is the conversion of an old canal which ran from Toledo to Cincinnati. It has been abandoned as a waterway for many years. The city of Toledo paid the state of Ohio for the ten-mile section of the canal just within the city boundaries. After a legal battle with claimants of water rights who asked $1,750,000 in damages, the city sustained its contentions and now the old canal is being filled up, and by the time snow flies we will start construction of a boulevard which we hope will eventually go as far south as the city of Cincinnati.

We also have in Toledo a fine civic center plan. Three buildings are already constructed and the federal government has prepared plans for a fourth building which will be in the hands of contractors the latter part of August.

A year ago the people were asked to vote on a bond issue for a new university site and the construction of new buildings. Something like thirty sites were offered to the board of trustees and they selected what in their judgment was the most desirable site. The result was that all the other owners who had property to offer immediately set up a cry of collusion. I suggested to the board that they have Mr. Bartholomew make a study of the various sites and their relation to the city plan. Strange as it may seem, that which the board decided on was the one that Mr. Bartholomew and his associates agreed on. This was another real service rendered Toledo by its planning consultants.

We also have in the Toledo district the Lucas County Plan Commission, having jurisdiction over the area in the county beyond the three mile limit from the city boundaries. The city plan commission has control of the platting of all property three miles beyond the present city limits.

I hope this meeting will resolve itself into a testimonial meeting and the various mayors of the cities will tell us about their problems and their achievements.

John W. Bowman, Mayor, Salt Lake City, Utah: As we visit the cities of our country we see that some of them stand out very distinctly and peculiarly from others, largely due to the vision of some man or woman who has been interested in the planning of those cities back in early days. No doubt this early planning has had its effect on the remarkable development of interest in city planning during the last few years. I am told that there are 700 cities with planning commissions and that these 700 cities represent about 37,000,000 people. I notice also that Harvard University has established a school for city planning and that a Planning Foundation has been created to render a very valuable service to the cities of the country.

Certainly a movement like this is needed to eliminate the tremendous waste in municipal management. All over the country streets are being widened at the expense of hundreds of millions of dollars. In one city 67 large business buildings were removed to provide for playgrounds. Much of this expense for widening or for other needed changes in the city structure could have been avoided by more consideration for the planning of the city, and even now it is not too late to avoid such economic waste if a proper planning program is adopted.

President Hoover has suggested a better program of recreational facilities for every community. This is a mighty important phase of city planning. It has a pronounced effect on juvenile delinquency. A recent investigation in one of the cities showed that delinquency within a radius of half a mile or so of playground centers had been reduced to approximately 40%, while outside that radius of influence delinquency had increased 12%. More important than the wealth that comes out of the ground or out of these mountains is the wealth that comes to a community through healthy young manhood and womanhood.

I believe that every city should have a planning commission. We have had one for a number of years in Salt Lake City. It is composed of outstanding people willing to serve their city without pay, merely for the interest they have in their city's development, and that probably is the highest thing that can motivate one in public service. I have thought from my experience in my own city and my observation in other cities that there has not been sufficient appreciation shown by public officials for the services rendered by these fine people working on planning commissions. There isn't the cooperation between public officials and the planning commission that there should be. We should give more effect to the findings of these citizen commissions. California gives that effect in its planning law. When the city planning commission after much study and expert assistance has developed a comprehensive plan, the law makes this plan the official guide in the city's development. I believe that planning commissions are entitled

to that much consideration after they have given their best efforts in the working out of the plan.

I have been much interested in Denver, in traveling over the boulevards of the city, visiting fine residential sections and journeying to the mountain parks. I don't believe that even you men who know about these things fully appreciate Denver's accomplishments. It wasn't done without a struggle. We heard way over in Salt Lake City the complaints of Denver about the foolhardiness of a man who had the nerve and the vision to turn Cherry Creek (which had been an eyesore and a menace for years) into a beautiful boulevard and a great sunken garden and beautiful park. I take my hat off to Mayor Speer for presenting to the people the plan and seeing it through to accomplishment. He will go down for all time in Denver as one of the greatest benefactors of the city. I hope that our planning commissions all over the country will have men and women of like vision and courage, and that our public officials will have vision enough to back up their work and see that their plans are carefully worked out in the development and growth of the city.

Alfred Bettman, Member, Planning Commission, Cincinnati, Ohio: The other evening at a meeting of the American City Planning Institute, Mr. Bassett stated that somewhere in the course of our activities in relation to city planning each of us develops a philosophy. I am going to derive a philosophy for this occasion from the address of Chief Justice Charles E. Hughes a few weeks ago before the American Law Institute. Mr. Hughes said to that body, which is engaged in a ten years' task of restating the common law of America at a cost of one million dollars, that nothing which it will produce should be considered as final and complete; that the valuable thing in law as well as in all other human activities is the process itself. From his remarks I derive as a basic philosophy from which to approach city development the truth that it is the nature of the process or the method which determines the value of the result.

What part should city planning and planning commission have

in the process or method of city building, if city building is to result in a good quality of urban development? I think planning commissions may be said to have three types of jurisdictions or functions in this process. One of these is the coordination or adjustment of the different physical things that go to make up the city, the coordination or adjustment of the different uses of the territory of the city. The second is what I will call administrative. The third function of the planning commission may be called inspirational.

In thinking of why a planning technique is a part of a good method in building up cities, there is one very important, very elementary and perhaps very commonplace thought to be kept in mind, namely that the value of anything is dependent partly on its location. One can put up two buildings costing exactly the same and in every respect physically identical, and yet if one be well located and the other mis-located the value of the two differ enormously from each other. A costly residential building in one district will be worth its cost; the same building erected in another district might hardly be worth the cost of tearing it down. This dependence of value on location is true of business structures, industries, streets, parks and everything else that goes to make up the physical features of the city. So it is not mere building things, nor the expenditure of money on them, nor the honest and wise contracts and specifications and other details of construction which will determine how much value is realized. Values, whether in terms of money or social results, are realized only if the structure or improvement be correctly located. I might illustrate by one structure in my own city. I suppose a man is privileged to criticize things in his own city. There was a viaduct built. I have no doubt it was honestly built; that is, that there was no corruption. I have no doubt the specifications for materials and that sort of thing were according to good engineering practice. That viaduct, however, did not fit into the street system of the city. It terminated at one end at a point where there was no good distribution system in relation to the thoroughfare development of the city. Inevitably

the traffic over it failed to develop and sooner or later some other viaduct will have to be built to serve the purpose. The money placed in that viaduct was not realized in terms of value. The illustration and experience demonstrated that the location of a viaduct and the location of the other streets of the city, present and future, bear on each other in such a way that locating a viaduct without calculating its relationships to the existing and future streets is bad method; is a process which destroys or prevents values.

Mislocation may not only prevent the realization of the values of the expenditure on the structure itself; it may destroy or impair values outside of itself. The location of a public or semi-public structure at a particular point may destroy real estate and business values by reason of making a break in the continuity and compactness of business use. This is cited merely as an example which shows how values may be impaired by mislocation.

As cities are composed of so many different kinds of things, homes, factories, streets, parks, public buildings, and so forth, the efficient, economic and value-creating development of the city is dependent upon the coordination and adjustment of these various parts, so that the location of each will be such that not only will it perform the service for which it was designed but also it will not impair the values or efficiencies of the land and the structures of the others. Illustrations of this need of coordination or adjustment will readily occur to the mind; the necessity of coordinating air, rail, bus, and other terminals to the street system, of coordinating the civic center to the zoning system so that the money placed in the beauty of the civic center is not destroyed by the environment of that civic center, of coordinating the airport location with location of the residential districts so that the residential districts will not be destroyed by the noises arising from the airport; the wisdom of dividing the river front amongst recreation and navigation uses, so that each service, namely, navigation and recreation, will be promoted and not impaired by the other. Only by wise locating of each part of the city's physical structure

in its relation to all other parts will good quality of city development result.

In addition to this coordination, which we will call space coordination, there is in every city the problem of time coordination. Any city has certain limited resources; its money resources are necessarily limited. A bigger city has a larger limit; a smaller city a smaller one; but whatever its size, there is about so much tax burden or other forms of money bruden which any community can bear without disaster. The pressures for doing things or building things aggregate a greater amount than this limit; for at any particular moment the public officials are under the pressure of neighborhood, of civic organizations, of political organizations, and the like, to be expending funds for this, that or the other, the aggregate of which pressures or requests far exceed the available funds. So there is a problem of allocation or coordination, so to speak, so that that which is most needed at the moment will receive the funds of the moment instead of permitting the funds of the moment to be diverted into that which is of less urgency.

If I may take an illustration again from my own city, we had a very dominating personality, a physician, whose hobby was a new general city hospital. He was perhaps the most fascinating and forceful personality in the community. As a result of his concentration of purpose and will and agitation for a general hospital in accordance to his ideas there resulted a relative over-building of a public hospital, that is, facility for the care of the sick, during a time when there was an under-building of sewers, that is, of a needed facility for the prevention of sickness. That illustrates a lack of coordination in the process of expending the available resources of the city.

One can have, for another instance, all the available money spent on little bits of stretches of streets here, there and everywhere, leaving some badly needed main thoroughfare too narrow or unduly postponed. On the other hand, one can neglect the central street distribution system while building some great new arterial highway and thus bring an increased traffic into the center without the

needed facility for its distribution. There has to be a time coordination as well as a space coordination, it seems to me, in the selection of the community projects.

Who shall perform this function of coordination or adjustment? It seems plain that at our present stage of municipal governmental progress the planning commission is the best fitted type of agency to be the student of, the analyst of, and the adviser upon this problem of coordinating, in time and location, the various physical improvements of the city. There may come a time when that will not be so. If you think of the history of municipal government in America you will realize that new types of activities, which in their infancy need great freedom for constructive thought and bold action, are entrusted to governmental organs more or less independent of the regular administrative officials. There is not and should not be independence of legislative control of expenditures. But some degree of administrative independence is requisite for novel functions until the need for the service and the methods of rendering the service come to be generally admitted and traditional. Civil service will serve as an illustration. The development of civil service methods and habits was brought about by the establishment of civil service commissions as a separate part of the governmental structure. As civil service methods come to be traditional and undisputed this function will come to be reposed in a branch, the personnel branch, of the regular administration and the independent commission abolished. Parks have had or are having an analogous history. In the promotional stages of park development the independent park commission or park board was added to the governmental structure; but as parks have come to be recognized as a necessary and habitual public service, their administration is coming to be transferred to a branch or subdepartment of the regular administrative structure.

So, in regard to city planning, there may come a time when the technique or methods we know as city planning will be so developed, so accepted, so traditional that no separate planning commission will be necessary. But in the meantime, and at pres-

ent, the separate planning commission is the necessary and best device and instrumentality to be the student of, the interpreter of and adviser upon the problem of coordinating and adjusting the physical development both in space and time.

There are other reasons, with which I presume the mayors and city fathers here will more or less agree. The operating or administrative official is too busy to have the time or the detachment to be thinking in terms of long future periods and large programs. He is too pressed with the daily current details. In the second place he is too subjected to local and political pressures of all kinds. The automobile club thinks this ought to be done. The fifteenth ward improvement association says this is the most important thing in the world. So these pressures are pressing on the operating officials, and I think this program-making, at least in its advisory stage, can be better done by an organism which is more detached and free from these pressures. Thirdly, each administrative official is very partial to his own subject, the sewer engineer to the sewers, the park engineer to the parks, the street engineer to the streets, the recreational engineer to the playgrounds, the school board to the school sites, and so on. Each is very partial to his own and is perfectly willing to have the others set aside. Somebody who is not partial to one or another type of public improvement can perhaps do a fairer job in this problem of program-making and coordination. Consequently the planning commission, separate from the engineering or other administrative departments, is of the utmost importance and necessity in the structure of our municipal governments.

You all know the operating methods of planning commissions, and a detailed description would be superfluous. I think the method that is outlined in the Department of Commerce model bill and state legislation more or less modeled thereon is the best; namely, the planning commission makes a comprehensive plan as a starting point, and as separate projects come up, street widening here, street extension there, playground here, school site there, these are submitted to the planning commission for its approval.

The planning commission studies each project in its relation to the plan, or, if necessary, makes a special study of that project in relation to the whole development of the city, and makes a report. This report is not binding upon the city council and administration, but they are required to ask for it, receive it and consider it.

As the quality of the result depends upon the method or process used in the work, I believe that good city administration is impossible unless this planning procedure be followed in the determination of the location of public improvements and in the determination of the time schedule of those public improvements. You can easily see that the efficiency of the plant is one of the most influential factors in determining the efficiency of the operation of that plant, and that is just as true of the fifty-nine square miles of Denver or the seventy-two square miles of Cincinnati as it is of any individual industrial plant within those cities.

So much for the first of the types of functions of planning commissions, that of coordinating and adjusting public improvements.

The second functional type of activity of the planning commission is administrative in its nature, relating to those operations in which the commission is itself the final administrative body instead of merely in an advisory capacity. The prime field of such administrative activity is the regulation of the platting or subdivision of land, which in some states is reposed in the planning commission. That commission is coming to be recognized as the most efficient and appropriate agency for this vital public function.

It would be utterly superfluous, in this audience, to emphasize the importance of subdivision regulation. On our streets as we go about today the main determinant of the speed and convenience with which we move is the subdivision regulation, or lack of it, of twenty-five and fifty years ago, and, thinking in terms of the next generation, the main determinant of the convenience and economy of movement of persons and things in the developing portions of our cities and their outskirts is that which the planning commission or other regulatory bodies are doing today in the course of the administration of the subdivision regulation.

The third type of function which I mentioned as within the ordinary province of the planning commission is inspirational in its method and purpose. I do not believe that a planning commission should be a propagandist body. I do not believe it should be the publicity and agitational organ for city planning in the community. I think that should be performed by some type of citizens' body. There are many reasons for this view. In the first place, after all the planning commission may be expected to be enthusiastic about its own projects, and therefore cannot be called an utterly disinterested group. In the second place, it seems to me that the mayor of the city or other political leaders should be the spokesmen, the voice of the government, both in its planning aspects and in its administrative and operating aspects, and that the planning commission should not seek to displace that political leadership. I mean inspirational in the sense of being the source of fertilization of public and official thinking, a producer of ideas, a disseminator of ideas amongst the officials, amongst the civic bodies, amongst those who are assuming the civic and political leadership of the community; in other words, the creator and disseminator of the city planning and city development ideas amongst those who are going to be the active community agents and active creators of community opinion.

Mayor Bowman has spoken of the relationships between the administrative and legislative officials and the planning commission. Of course these relationships are affected and, to some extent, controlled by the nature of their respective legal functions and their respective places in the legal structure of the government. In the end, however, they are dependent upon the personalities of officials and commissions, upon their talent for friendly human relations, their talent for tact, their capacity for breadth of view and disinterested service to the community. If each official or body realizes the place of the other and the importance of the other, the planning commission realizes that the ultimate determination for the expenditure of public money belongs with the elective officials, and the elective officials realize that the above-described

adjustment or coordination function is absolutely essential to good administration and one that can be best done by a planning commission, they will find the means for the most friendly and cooperative relationships.

Gardner S. Rogers, Assistant Manager, Civic Development Department, Chamber of Commerce of the United States: Increase in a city's population with the corresponding economic results are subjects which are continually before chambers of commerce, civic and governmental agencies. Loose thinking and lack of appreciation of the factors which determine population trends have led many communities to believe that because a city has grown rapidly in the past is predicative that it will grow rapidly in the future, and that the primary job is to provide for this large anticipated population rather than adequately to serve the city as it now exists. A certain degree of optimism is commendable, but when it anticipates results based upon incorrect premises the economic consequences are likely to be serious.

During the last twenty years all cities worthy of the name have been increasing in population. America has changed during the last twenty years from a predominantly rural country to one which is predominantly urban. There are three principal causes for this change:

First, the comforts and conveniences provided by municipalities and the relative lack of opportunity to make as high labor income on the farms brought thousands of rural people to the cities. Today, however, the radio, telephone, electricity, good roads and the automobile are giving the farmer many of the urban advantages and farm machinery has removed much of the drudgery of harvesting crops. While the balance between the demand for farm produce and the number of persons required to provide for this demand may be some distance in the future, it is gradually being secured. Consequently one cause for the increase in the population of our municipalities is gradually being shut off.

The second cause for recent urban increases is immigration. During the years between 1910 and 1924 immigration into this

country amounted to between 800,000 to 1,000,000 persons a year excepting the few years of the World War. Since 1924 the number of immigrants has been cut down to between 200,000 and 300,000 a year. As the large majority of the immigrants settle in cities, this annual reduction will have a great effect upon the future rate of growth of cities.

The last principal cause of urban increase is the augmented longevity and the excess of births over deaths. There are two causes for this. First, medical science has made great strides in reducing infant mortality and in prolonging the life of the aged. Thirty years ago the infant mortality rate was approximately 250 per 1000. Today it is approximately 68 per 1000. Practically no progress has been made, however, in reducing the death rate of persons between the ages of thirty and sixty. Secondly, the present excess of births over deaths is due to the large percentage of our population who fall within the child bearing age range of 18 to 50. Therefore during the years immediately ahead, when so large a percentage of our population is within the reproductive ages, the birth rate will remain high, but as this generation becomes older there will be a more normal balance between the age groups and a corresponding reduction in the birth rate.

Dr. Louis J. Dublin estimates that in about 1970 the birth rate and death rate in the United States will be balanced at 15.5 and the United States at that time will have a stationary population of approximately 150 million.

If then the three principal sources from which the increased population of our cities has come are materially reduced or entirely shut off, it is evident that the city which grows in the future must secure its population from some other city. This is a staggering thought and places an entirely new conception upon population trends. It means that in the future every city will increasingly become the competitor of other cities and that those which cannot or will not provide for the well-being of their citizens are likely to have fewer and fewer citizens to provide for.

If cities in the future will have to depend primarily upon attract-

ing people from other municipalities for their growth in population, it will be interesting to take note of the several causes for the migration of people. The primary requisites of life are food, clothing and shelter. The cost of these commodities when considered in relation to the wage scale are fairly well standardized throughout the states. The city which can guarantee continuous employment to those who wish to work has a tremendous advantage over the city with seasonal unemployment. Hence local industries running at a normal rate throughout the entire year are a strong impetus to municipal growth. Substantial progress is being made in the elimination of under- and over-production, and it is probable that the next ten years will see this problem at least well along toward solution.

The principal and continuing factor in the future mobility of population is rapidly becoming the city itself. Has the city we are living in more, or less, advantages than another city? If so we will stay where we are, if not we are likely to move.

The primary requisites of a municipality are well known. They are the systems of transportation and communication; the use to which property is put—residence, business and industry; educational facilities; protection of persons and property and recreation.

The technique of developing these requisites is too well known to those present to require discussing in this paper, but *how* these requisites may be adequately provided for is a subject worthy of the attention of this group.

Municipal taxes have increased 100% since the war and still our cities are not properly or adequately providing the requisites of urban life. Concisely stated the problem is this: In order to increase its population or even maintain its present population a city must so develop as to become as satisfactory a place in which to live, work and play as its competitors, and yet with municipal development only partially completed, taxes have doubled in 15 years and the majority of cities are having financial difficulties. The present situation is a challenge to those interested in municipal

well-being. The solution is planning, but if, and only if, the plans are properly made and properly carried out on the ground. Plans are of themselves of comparatively little value and are even used at times to defeat the purpose for which they were prepared. A concrete example will illustrate this point.

An excellent comprehensive plan was prepared by two city planners for a city of 300,000. Conditions for carrying out the plan were far in advance of most cities. The real trouble lies in the fact that the value of the planned projects is so well appreciated, especially by certain influential men in the community, that influence is being used to spend much of the money made available by the bond issue for projects provided for in the plan, but not immediately necessary, while necessary projects are being delayed. This manipulation of the city plan was the primary cause for the city having to vote an additional six million dollars for sewers.

In some instances the plans themselves are badly prepared. In one city of 10,000 the plan recommends that the best business block be demolished and a park created. The best residential district was placed adjoining the railroad and much of that area which is now developed for residential use was planned for industry.

Recommendations for one of our oldest and most picturesque cities required that the narrow twenty and thirty-foot winding streets be straightened and widened. To do so would have demolished three fourths of the town and completely destroyed its character and charm.

A Southwestern city was sure that its own talent knew far more about its own city than any outside consultant and so promoted one of its local engineers to the office of city planner. Under the difficult circumstances a fair plan was prepared, but little has been accomplished, as those defeated at the election claim the plan was prepared to enhance the value of the land owned by those who were elected. If an outside consultant had been employed this difficulty might have been eliminated.

The preparation of a plan, therefore, does not necessarily bring about a municipal millenium; in fact the real problem still remains.

Considering the problem from the broad aspect of municipal well-being rather than from the preliminary phase of planning, it would appear that the answer is twofold. One—what projects must a city develop during the next few years to provide reasonably for the well-being of its present and anticipated citizens, and in what order must these projects be carried out? Two—after a project has been decided upon, how may it be most efficiently developed? It might appear that the average municipal administration with the help of interested citizens would be able to determine with little or no investigation what projects are needed and when. In fact, it is primarily because this belief does prevail in 99% of our cities that local taxes are as high as they are. It is a simple fact of experience that cities do not know the relative value of the projects under consideration. A Florida city of 10,000 population voted a $70,000 bond issue for a swimming pool, when $100,000 was needed for the local hospital. The city must send most of its hospital patients thirty miles to another city because it is up to its legal debt limit.

An Ohio city is recognized as having an unusually efficient and complete fire department. Its police department, however, is equally notorious for its inefficiency and lack of equipment. Last year the people voted overwhelmingly for $30,000 to further improve the fire equipment and with equal magnanimity voted $300 for police equipment.

It would appear that a program based upon factual data and developed according to priority of need is the first step.

The second step noted above is efficiency of development. The phrase as used means the development of a project in accordance with the service it is expected to render. Examples of this type of inefficiency are found in all municipalities.

A city of 50,000 spent several hundred thousand dollars in paving minor residential streets fifty feet wide. The administration recognized that this width was double that required but justified the expenditure on the ground that the county proposed to use one of the streets as a major highway, and as they did not

know just which one the county wished to use, the administration played safe and paved all the streets fifty feet wide.

A small town of 3,500 boasted of its wide business street, which was paved 98 feet wide. By way of contrast, Fifth Avenue, New York, is only 55 feet wide and Michigan Avenue, Chicago, not much wider. Based upon a reasonable traffic density, all of the registered automobiles in the four surrounding counties could tour down the main street of this little town in one day. When the city was visited the administration was trying to secure sufficient funds to pave a few other streets, the main street being the only street in town adequately paved.

A Texas city presents an unusual situation. The principal thoroughfare, which runs through the center of the business district, divides the city into two nearly equal parts. In one half of the city the citizens are assessed for the entire cost of street pavement, in the other half of the city the citizens are not assessed for any of the cost of pavement. The taxes in one half the city are approximately double those in the other half.

Efficiency in municipal development cannot be expected when the various projects proposed are based upon political expediency or the selfish desires of an interested group of citizens. The problems are not only of themselves far too complicated, but are so interwoven with all phases of municipal life as to make any unscientific procedure hazardous to the well-being of a community. Adequate plans for development should be made by those best qualified in the respective fields and these plans should be turned over to a coordinating committee working in cooperation with the citizens and the city administration for the welfare of the community as a whole.

The creation of a city planning commission, the selection of a city planner and the preparation and more or less general approval of the plan is the easiest part of the work. The real problem begins when a city tries to interpret the plan and put it into effect. The reason for this is that generally the plan is rather technical in many of its details and when transferred to a lay planning commission to carry out becomes a job for which they often are not equipped.

The average planning commission is qualified to advocate the widening of a street or the purchase of a playground and in fact is an excellent promotional agency for all phases of city planning. It can also go farther and approve subdivisions from the standpoint of whether or not they tie in satisfactorily with the master plan which it has before it. It also is qualified to make certain recommendations regarding changes in zoning ordinances. To this extent many planning commissions are doing very excellent work.

The city plan may recommend that a street should be widened to 100 feet. Before, however, money for this widening is spent, it is important to know whether such a project is more, or less, necessary than an addition to the sewage disposal system, or a hospital, or possibly a grade separation or any of a number of other municipal projects which may be imperative at this time.

The average city planning commission believes properly that its purpose is to further city planning, and this results in such commission setting forth the arguments for their particular projects while other boards or persons are setting forth arguments for their particular projects which are not included in the city plan. Consequently municipal development is seldom carried out according to priority of need, but rather in accordance with the force and prestige of the agencies backing the individual projects.

It would therefore appear to be desirable to set up a lay committee composed of the key men of the community, which committee shall have as its members no persons who are in any way connected with a public office. Neither should such a committee be appointed by a public official. The duties of this committee would be to secure from the planning commission, the school board, the sanitary commission and all other boards, officers and municipal agencies the projects which these various agencies have before them, the relative importance which these agencies place on their particular projects, their probable cost and the method by which they may be consummated. In addition to this, the citizens' committee should know what it is costing the city to serve its

citizens today and what it probably will cost during the next ten years. Having all of this information before it, the committee may then act as an unofficial judicial body and prepare a tentative program for development during the next ten years based upon expert advice as secured from the city planner and the various municipal agencies and based upon the probable increase in population and the probable increase in revenue and bonding ability of the municipality over the ten year period. After this tentative program has been developed the committee should call before it the various agencies for a final check and permit them at that time to show cause for any variation in the tentative program.

It is recognized that the procedure just outlined will take considerable time, but when the program is finally developed there will exist a report made by an unbiased body, which is composed not only of business and industrial leaders, but incidentally the group of men who benefit most by proper municipal development and who in the final analysis pay most for municipal development. Such a report or program when submitted to the city administration should carry sufficient weight so that, with the exception of a few minor variations which the administration would probably wish to make, it will be approved.

After the program as suggested above has been submitted to the city administration it should be passed in the form of a resolution which should simply resolve that the program herewith attached will make for the general betterment of the business, industry, health and well-being of the citizens of the community, and that the program is financially and economically practical, with the further resolution that the administration pledges itself that in so so far as it is administratively possible the program will be put into effect.

It is probable that money in excess of that received from taxation will be needed to carry out the program and that a bond issue will be required. Such a proposed bond issue should include all of the necessary projects on the program and definitely state what part of the bond money shall be spent for each particular project during

the life of the program (ten years) and also what part shall be spent each year.

At this point it would probably be desirable to place before the electorate the question of whether or not the total bonds called for by the program shall be issued. This proposition can be so worded on the ballot that an affirmative vote for the bond issue signifies a definite approval of the program. There should also be included the proviso that while the vote is for the authorization of the issuance of bonds for the entire program, only one-tenth of the bonds may be issued in any one year. There are several advantages in this procedure. It was stated above that the various municipal agencies and civic organizations will naturally promote their own particular projects. When the matter comes to a vote they will be likely to vote for the entire bond issue because it includes the projects they are most interested in, while on the other hand if bonds are voted annually for a specific project those who are not interested in that particular project are very likely to vote "no." Carrying this farther, it is often found that a well organized campaign, pleasant weather conditions on election day, carry a bond issue that is not particularly worthy, whereas a bond issue for a necessary project may because of lack of organization or other causes fail of passage.

The provision that not more than one tenth (this figure may be varied to meet local conditions) of the total issue may be spent in one year prevents a single administration from going on a wild orgy of expenditure and thereby furthering its own political ends by great accomplishments, and it also results in a deterrent to that administration which wishes to gather funds through a false economic program. The present administration receives the glory of beginning a comprehensive development and each succeeding administration receives the glory of carrying into effect many necessary projects. Also political office seekers cannot reasonably criticize the present administration through the medium of the program, because the present office holders simply put their approval upon a program arranged by the business and industrial

leaders and also approved by the affirmative vote of the entire electorate.

It is recognized that certain emergencies are likely to arise during a period of ten years which might change the urgency of the various projects or might inject new important projects into the program, but these conditions can be handled by continuing in existence the lay committee which formulated the original plan. There would be nothing for the committee to do, however, except in an emergency.

It should be recognized that each administration has a specific job to do during its particular term of office and that no attempt is made for one administration to bind another.

After the plan, as suggested above, once is started it is quite likely to be continued, because after certain projects have been carried out according to the program any unreasonable change by an administration would naturally meet with considerable resistance from those persons or agencies which have patiently waited a number of years for their project to be completed and it is likely that sufficient pressure will be exercised to force the administration to carry out, within reasonable limits, the original program.

It is well recognized that the procedure suggested is far from perfect and will not be applicable to all municipalities without substantial variations, but it is more likely to secure proper civic development than the haphazard procedure now in general use, and it is believed will be of material assistance in making our cities better places in which to live, work and play.

A NATIONAL (CIVIC) CENTER

Charles W. Eliot, 2d, Director of Planning, National Capital Park and Planning Commission

"Every American has two home towns—Washington and that other place." That slogan, used so often on guide books and circulars concerning the National Capital, expresses the idea which I wish to present tonight. The Washington Region, the Federal City, the Nation's Capital, form a setting for the national civic center.

Congress and the administration have shown an increasing interest in the development of the Federal City, presumably reflecting the desires of citizens throughout the country. Great progress has been made during these last few months in legislation, particularly authorizing appropriations, which is encouraging even though the appropriations themselves are now held up because of a dispute between the House and the Senate over the amount of the federal contribution as compared with the taxes of the local people.

The preservation of the outstanding examples of natural scenery which form the setting of the city has been forwarded during this last session by the passage of the Capper-Cramton Bill, involving over thirty-three millions for parks along the Potomac River from Mt. Vernon to Great Falls and up various tributary stream valleys, and in the District of Columbia. Some of the projects are to be financed on a fifty-fifty basis—a dollar from the federal treasury for each dollar contributed by states or private individuals, while sixteen million dollars' worth of land is to be paid for by the District of Columbia.

To protect some of these parks, particularly to preserve harmonious architectural treatment of areas surrounding the Mall and the government buildings, Congress has passed the Shipstead Bill. This is an act of special interest to all people concerned with the grouping of public buildings because it aims to control the ap-

pearance, height, color and architecture of private buildings fronting or abutting upon the public buildings or adjoining streets. Power is given to the National Commission of Fine Arts under this act to pass upon the suitability of every proposed structure in such locations before a building permit is granted by the District Commissioners.

The importance of this measure can be fully appreciated when the magnitude of the Government building program is realized. Approximately two hundred million dollars of expenditure have been authorized by Congress for the central area of Washington—an investment sure to increase the value of adjoining property and justifying restrictive control in turn.

The great central composition in Washington includes, as you all know, four principal features—the Capitol, the Washington Monument, and the Lincoln Memorial in one line, and the White House at the head of the cross axis. The whole kite-shaped area bounded by Pennsylvania, Maryland and New York Avenues is included, measuring over two miles long and over a mile wide at the White House. Current activities in all parts of this central area are pushing forward to the ultimate realization of the plan to make this portion of the city into a national (civic) center.

For instance, four and one-half millions have just been appropriated to complete the project for a park between the Union Station and the Capitol, with a new avenue to Union Square at the head of the Mall. A new House office building is about to rise just south of the Capitol, while to the east old buildings are now being torn down to make way for a new home for the Supreme Court. A frame of monumental buildings will soon completely surround the Capitol Grounds.

Between the Capitol and the Monument lies the Mall, where work has already started to open a vista along a greensward bordered by four rows of elms. The triangular area south of the Mall to Virginia Avenue is now being purchased to serve as sites for future public buildings—possibly the War Department—under an act passed this year. Here one building is just being completed and

contracts for an extensible building for the Agriculture Department have just been signed. A new Botanical Garden has been authorized in a location at the foot of Capitol Hill.

North of the Mall and Pennsylvania Avenue lies the already famous triangle where the Internal Revenue Building has just been occupied and where the seventeen million dollar Commerce Building is fast approaching completion. Other units in this building group are to be started this year and old structures are now being vacated near the Treasury where demolition is to be undertaken next month.

A few special features or unusual aspects of this triangle building group should be of interest to you. From the physical standpoint, the arrangement and height of the buildings are important. In spite of the large plaza in the center of the triangle and the circle, which compares with the Place Vendome in Paris, replanning the street area and development of the building plan as a single composition has increased the land available for building purposes. The cornice height of all the buildings is a fraction over 87 feet in an area zoned for 90 foot structures.

Concentration of government office buildings in a limited area immediately adjoining the central business district has brought serious problems of transportation. New transit plans must be made to care for the 23,000 employees in this one group of buildings. No satisfactory solution of the problem has yet been found, partly because there are two rival traction companies to deal with and partly because the Treasury Board of Architects has not yet been persuaded that street car and automobile parking facilities must be planned for as integral parts of the building program. There is real danger that if parking spaces are not provided in the buildings the great central plaza within the group and the Mall or other parks adjoining will be covered with "black bugs"—i. e., parked cars.

The National Capital Park and Planning Commission has consistently advocated since 1926 that the whole group should be "self-contained as to parking," that it should be an example of the self-

contained block advocated by Dr. McClintock this afternoon. Unfortunately the two buildings already under way do not conform to this requirement of the modern age, which means that some 5,000 parking spaces must be provided in the remaining structures to care for the whole group.

A social and labor problem is also involved in the endeavor to push the triangle buildings to early completion. The desire to provide gainful occupation in these days of unemployment has caused a particular effort to rush the work, with a resultant influx of building labor. It is a matter of some concern in Washington as to what will happen to these people when the forced draft of work comes to an end.

The triangle building group is without a doubt the largest and most magnificent single composition of buildings ever undertaken at one time. While some may wish that a modern style of architecture had been used, all will agree that the classic feeling pervading the whole composition is in keeping with other work in Washington, and is vastly better than a group of structures each of individual design, and that the style chosen is that most likely to give enduring satisfaction.

I would not have you suppose that the Capitol group, the Mall, and the Triangle are the only scenes of activity in the central area of Washington. New work is also going ahead in the triangular area west of the White House. Here a new Red Cross Building has just been completed, and still another is soon to be constructed. An annex is to be built for the Pan American Union, and an office building for the Public Health Service is included in the Deficiency Bill now before Congress. A movement is afoot to get rid of the "temporary" Navy and Munitions Buildings, which were put into the park near the Lincoln Memorial during the War. North of Pennsylvania Avenue a great Municipal Center is in prospect and land is being acquired for future buildings near the old Court House.

All these structures, parks and projects are in general accordance with the great plan prepared in 1901 by the famous McMillan

Commission, including Burnham, McKim, Olmsted and St. Gaudens. That plan has been revived, reviewed and revised by the National Capital Park and Planning Commission. Now new studies are under way for further amplification and development of the scheme. A suggestion for the creation of an Avenue of the States eastward from the Capitol (along East Capitol Street) is now the subject of a competition among architectural students throughout the land under the Beaux Arts Institute of Design. A special study of the grounds about the Washington Monument is being made by a committee of a landscape architect, architect and two engineers.

The plan for the Central Area of Washington is being carried out. It is alive and growing. There are numerous problems still to be solved, but with the continued interest of citizens throughout the United States in their "Home Town," the Center of the National Capital will suitably reflect America's "Highest Ideals of City Building."

Mr. Eliot's paper was illustrated by slides.

WHAT A CIVIC CENTER MEANS TO THE CITIZENS WHO CREATE IT

Charlotte Rumbold, Member, Cleveland City Plan Commission

Cleveland is a typical steel city, one of the chain around the Great Lakes, where iron ore and coal meet most cheaply. It has the typical leaders in the steel industry who take advantage of every scientific advance in technique, engineering and finance. It has the typical steel workers, first and second generation immigrants from southeastern Europe.

Early in the war the order came out from Washington that no enemy alien was to be allowed within three miles of a plant that was making ammunitions. Half the managers and vice-presidents of steel mills in Cleveland were on the next train to protest. Enemy aliens were making the shells and guns. We made a survey in Cleveland—we are always making a survey—and in the ward in which I live there were 42 languages and 11 religions, not Baptist and Methodist, and so on, but 11 different tribal gods, so to speak. We have Mohammedans, Buddhists, Shintoists, Parsees. Cleveland celebrates three Easters. This same survey showed that 60% of Cleveland's workers read foreign language papers only.

The backbone of Cleveland, industrially, is three huge steel mills. Our thermometer of business is steel furnaces in blast. If eighty per cent. of the furnaces around the lakes are in blast, it is good times in practically the whole of the United States. These furnaces in the Cleveland valley are literally a cloud of smoke by day and a pillar of flame by night.

The money for Cleveland's civic center comes from Cleveland's taxpayers.

Cleveland's Group Plan was started in 1900 by a group of men in the Chamber of Commerce, leaders in this same steel industry, who seized the opportunity created by the need for a new county

courts building, the promise of a new post office, and the imminent need of a new city hall, to enlist public support for a group of public buildings in emulation of groups of public buildings in European countries. They did their work well. They had a hope of making of their city as beautiful a place in which to live as it was a profitable place to work. They chose the outstanding architects of the time to make the plan. Daniel Burnham and his associates made a plan of wide vision and beautiful proportion. It caught the imagination of the whole citizenry. And the enthusiasm has lasted. In all the thirty years following, only one proposal has failed of popular approval at the polls. And that was to erect a county office building which was to have a modern jail on the top story. That could not be put over. The people would not have a jail on their Mall. The jail has been put some place else. But with this exception, for thirty years, with all the changes in living conditions, and with a cosmopolitan population of every conceivable cultural background, the plan has steadily gone forward.

In the thirty year interval the whole type of living, not only in Cleveland, but in the whole United States, has changed. The automobile has both congested and scattered the cities. In 1900 Cleveland was known as the Forest City. Its streets were lined with stately elms. Its Public Square was the typical public square of a mid-western town, with a Soldiers' and Sailors' Monument of the Civil War.

Cleveland has now not only a civic center, but it has a commercial and transportation center on the Public Square which is still unique in the United States, though of course it may not be in another two or three years. And, five miles out from the Public Square, around the University, there has been established a cultural and educational center which, for beauty of setting and scope of interest, is likewise unique. I am quite certain this latter would not have been established except for the inspiration and continued influence of the Group Plan of Public Buildings. Of course the commercial and transportation center is obviously of high economic value. However, the builders of the Cleveland Union Terminals

Group had definitely in mind the connection of the group across the Public Square with the Civic Center immediately to the northeast.

Since 1900 the citizens of Cleveland have spent from their own tax money about thirty-eight million dollars upon the Civic Center. For a city which has not yet reached a million population, this is every bit of what they should spend on one civic enterprise when hospitals, health and sanitation, police and fire, and all the other activities in which a city must engage, are taken into consideration.

The plan for the educational and cultural center built about the universities was started about eleven years ago, by practically the same men who started the Civic Center. They optioned or purchased the necessary acreage around the University for buildings for cultural and educational institutions which they knew the city would be obliged to have, and they did it deliberately to establish such a cultural center because they knew of the success of the Civic Center. There are now fourteen such institutions established in the University Circle Group, and there has been approximately the same amount of money spent on it as has been spent on the civic group. But not one bit of this money has come from public taxation money.

The commercial and transportation center is of much shorter life, and on it approximately $80,000,000 have already been spent—and not all the buildings are completed—and their financing is as intricate and complex as the workings of a photoelectric cell.

In other words, the civic center—the Group Plan of Public Buildings—just because it is dependent upon taxation and must, therefore, run the various gauntlets of councilmanic action and vote of the people, and all the political hazards of partisanship and suspicion, lags behind the economic and the cultural center. But there is no doubt that it was the inspiration of both of them. Nineteen thirty-six is the one hundredth anniversary of Cleveland's centennial as a city with a charter, and Cleveland proposes to celebrate its birthday by giving itself a real gift, a completed Group Plan, although it will require another ten million to do it.

With all the changes that have come in living conditions in the thirty years since the Group Plan was begun, changes have come in architecture too. In the original Group Plan the union railroad station, which was to have been the gateway to the city, was planned for the northern end, on the lake front. That was in 1900. Before 1920 monumental railroad stations had proved entirely uneconomic. Probably the replica of the baths of Caracalla, which serves as the Pennsylvania Railroad Station in New York City, will be nearly the last of the great monumental railway stations. Cleveland, which is extremely practical minded so far as transportation is concerned, moved its railroad terminal from the lakefront to the corner of the Public Square, where the railroads come in on the third sub-basement, the interurbans on the second sub-basement and, in all probability, some of the city subways on the first sub-basement, and where the tower, the central structure, built on the air rights over the railroad tracks, rises to fifty-two stories, more than 900 feet above the lowest railroad track. Part of these air rights are rented by an hotel, another part is under construction for a huge department store, another unit of it is planned for a United States parcel post station, and the rest of it is office buildings, bank buildings, medical arts building, eight story garages. In other words, instead of a $3,000,000 railroad station on the lake front, which would have been a railroad station and nothing else, the economics of 1930 demand a huge cluster of buildings built on air rights over a completely submerged railroad station, the air rights structures far out-valuing the railroad facilities.

But the Group Plan is still to be the gateway to the city, for just to the east of where the railroad station was to have been, we have planned an in-city airport which will afford a landing place within five minutes taxi ride of the main hotels of the city and which will accommodate both land and water planes.

When the railroad station was picked up bodily from the north end of the Mall, as we call the central or garden part of the Group Plan, the opportunity was opened for making the view of the lake

the dominant beauty note of the whole scheme. Therefore, the Group Plan has been lengthened toward the lake a little less than a third of a mile. A stadium is to go on the western side, and opposite the stadium some such building as an industrial museum. Not only has the original plan been lengthened a third of a mile, but it has become of three levels. The upper, or 1900 level, is about 40 feet above the level on which the stadium is to stand, and 20 feet lower than that is the lakefront itself. On this very lowest level there will be recreation piers which the city has long needed, as well as the commercial piers extending out into Lake Erie, and the lakefront airport. The architecture, also, will emphasize the difference between 1900 and 1930. The buildings on the upper level of the original Group Plan are, to a greater or less degree, in the French classic style. It is required that the buildings shall have an even cornice line. This is approximately 70 feet above the ground level. On the lower level the stadium will be 100 feet from the lowest to the highest point of the building. Its style is completely modern, in that it is of no particular style. It meets the problem. The building materials are likewise different. On the upper level the buildings of the City Hall, Court House and Post Office, the first three to be built, are of gray granite; the Auditorium is of gray Indiana limestone; the Library is of marble. The stadium, however, is planned in the new materials. The building is an irregular oval, approximately 700 by 800 feet. This is because the present-day popular open air spectator games—baseball and football and boxing—demand grounds of that size and shape. They also demand for their financial success great crowds of people, each one of whom separately demands a seat with unobstructed view of the whole field. Its material will be concrete and steel, with an aluminum top and, far from being gray, there is every opportunity for color and glitter. When the balancing building is erected, it may be of one of the still newer building materials—perhaps even casein. And we shall certainly try some of the new methods of financing, too; not all of that will come out of tax money. This stadium is one of the first of the entirely in-city stadiums. It is

literally in the heart of the city, and within less than five minutes' walk from the very center of street car and interurban traffic. Getting a crowd into such a building is fairly easy. A baseball crowd, however, leaves its seats and starts for home almost as one man. This makes the traffic problem extremely difficult. It will be solved by a lakefront boulevard, which will cost another few millions; by re-routing the street cars and putting them in a subway, out of the road of the automobiles, and that means some more millions.

In other words, Cleveland's civic center has grown with the city. If it had been closed, as planned in 1900, with a $3,000,000 railroad station, it would probably have been finished by this time, but Cleveland would have missed the tremendous economic development of the Cleveland Union Terminals group. It would have missed the stadium. It would have missed the in-city airport and the great lakefront boulevard.

Cleveland's civic group has grown with the city. It has changed with the changed conditions of life in the city. It is not completed and probably will not be entirely completed even in 1936, unless the city slows down a very great deal. For nothing but a mausoleum is ever completed. It has been of incalculable value in welding into a unity of feeling the whole citizenship about a hope of achieving a beautiful thing—which is their own because it houses their own government, *and* they pay for it themselves. They are proud of the University Center with its gardens and fountains and art collection and orchestra, and proud of the Terminals Group—but it isn't the same pride. Who can tell what that pride in their city means to the citizens? It is one of the intangibles that in the long run outweigh many concrete, visible achievements. In the meantime its direct by-products are a cultural and educational group of buildings and a commercial and transportation group, both nearing completion, and both as truly representative of different sides of city life as is the civic center itself.

DISCUSSION

JAMES B. WEAVER, Des Moines, Iowa: Des Moines is bisected by the Des Moines River, and ever since the founding of the site the two sides have been economically, socially, and politically antagonistic. The Town Planning Committee conceived the idea of making our civic center on the river front. At that time there were sewer vents, junk heaps, livery stables, and everything that a water front should not have. We acquired a little ground each year and ultimately had all the land on both sides of the river for a distance of six or eight miles. Now the public library, the post office, the coliseum, the city hall, the municipal court building and the federal court building are all located there, and soon will be added an art museum. We have ambitious plans for even a more extensive center.

The civic center has effected a unity of the city which is all we could hope for. The old feeling of antagonism is gone. We are especially proud of the civic center because it has worked a great spiritual as well as physical change.

CHARLES H. CHENEY, Palos Verdes Estates, Calif.: As an architect, and believing that the civic center is an architectural problem, I am convinced that there will be nothing gained by grouping public buildings unless the problem is studied as one of group architecture. There is no excuse for wasting public money in great public structures unless we produce a result that is meritorious architecturally. There are several cities in this country beginning in the 500,000 population class and running to as small as 10,000 or even 2,500 that have achieved something of the ideal of fine architectural grouping whether they are groups of administrative buildings, educational buildings, or even residential buildings. I believe we are never going to set up in the minds of the people generally the possibilities of civic center groups until we show the really great architectural groupings, not only in the capital cities in this country and foreign countries but in many other places where meritorious work has been done.

IS CITY PLANNING NEWS? IF NOT, WHY NOT?

TULLY A. NETTLETON, Staff Correspondent, Christian Science Monitor

The fact that I am here is the answer of the Christian Science Monitor to your question, "Is City Planning News?" The Monitor believes city planning is news and it devotes space to this subject whenever new facts or interesting features in the spread of the planning movement appear.

In order to learn to what extent our interest in the subject is shared among other metropolitan and local newspapers generally, I sent a letter of inquiry including some sub-questions to the editors in charge of news policies of seventy newspapers in representative cities in the United States from coast to coast. I felt in the first place that the mere number of replies would be some index of interest. Knowing how anything like a questionnaire is received, and knowing how busy managing editors are, I felt that a dozen letters in return would be good response. Twenty-five editors out of the seventy, or somewhat more than one in three, responded, and many of them took time to write long and constructive discussions either of the main question or of the sub-questions one by one.

My first query was, "Do you find a reasonable reader interest in city planning news?" Nearly every editor in the twenty-five answered this question, and twenty-two gave distinctly favorable replies. Two others qualified their answers, but were not unfavorable. I think you will be encouraged to hear what some of these men say of the news value of city planning activities. Probably the most concrete answer came from S. S. Schwab, managing editor of the Philadelphia Public Ledger, who replied that "the Public Ledger has just completed publication of a long series of articles running daily on city planning in the Philadelphia metropolitan area."

Most lively interest appears in cities which are in a period of rapid growth and expansion, or in one of transition and replanning.

Letters from Detroit, Dayton, Ohio, Oklahoma City and Tulsa, Oklahoma, mention high reader interest due to unusual city growth.

P. W. Hammond, managing editor of the Atlanta Constitution, Atlanta, Georgia, says the Constitution has always considered city planning news of primary interest, and endeavors to develop news of this nature for front page use whenever possible.

An interesting comment is made by Marwin H. Creager, managing editor of the Milwaukee Journal, who says: "It always is hard to assess reader interest, but we feel certain that even though the volume of interest in city planning may not be great, the *quality* of the interest more than justifies liberal space."

I believe I can best sum up the attitude of those editors who welcome copy about city planning by quoting my former boss, one of the most live newspaper men I have known, Walter M. Harrison, managing editor of the Daily Oklahoman and Oklahoma City Times, recently president of the American Society of Newspaper Editors. He writes: "City planning certainly is news. We make a special effort to cover all meetings of the city planning commission and city adjustment board. Editorially we try to be alert for making suggestions for improvement of the city in this period of astounding growth. We certainly consider city planning the very best of constructive news in the paper today."

But now, lest the perfume of all these bouquets begin to pall upon you, let me tell you what a few editors say who are more free with the harpoon. A stimulating letter comes from George B. Armstead, managing editor of the Hartford (Connecticut) Courant. He says one might as well propose the question, "Is navigation news? If not, why not?"

He continues, "City planning and navigation are activities often productive of news, but navigation and city planning have been going on for a good many hundred years and the fact that they are going on is not news. But an unusual feat of navigation is always news just as an unusual failure of navigation becomes news."

"City planning, navigation, engineering, business administration, teaching, and other activities are not in themselves news. Any one of them may develop and does develop news almost every day. No doubt considerable material now escapes the newspaper which would be legitimate news, but is missed largely because the newspapers have not sufficient reportorial forces to delve into all the activities of the day, and because the men who are interested in getting city planning affairs before the public do not recognize the news which they have."

Mr. Corbin, of the Toledo Blade, says: "Much depends upon the man in charge of city planning. He can make the news interesting or he can make it dull and uninteresting. I believe the man in charge of such work should know news when he sees it in order to make him a thoroughly efficient city planning executive."

Now I come to a recommendation by Paul Bellamy, managing editor of the Cleveland (Ohio) Plain Dealer, in these words—"The situation could be improved in part if the city planning commissions had some one connected with them with publicity sense."

In Oklahoma City, Mr. Harrison remarks that fortunately the secretary of the city planning commission there is "a newspaper trained man with some imagination who is always alert to get the visualization of the city planning commission to the people."

This brings me to the first major recommendation which I would make to you for the better handling of city planning news. I would recommend, if indeed the editors I have quoted have not beaten me to it, that wherever possible city planning commissions should have some one on their staff, perhaps the secretary of the board, or perhaps as in the electric power companies a public relations man, who has had newspaper training in order both to recognize news and to know how to pass it along interestingly to newspaper writers.

To be sure, you do not want to load down your staffs with unnecessary expense, but you are constantly dealing with the public and with things which affect the every-day life of thousands of people. You depend upon them to support the projects you out-

line. Many things which are perfectly visible to you after weeks of acquaintance with a problem are not at all obvious to some of the citizens affected. Your plans not only need to be made wisely but to be explained both wisely and clearly.

In order that a story may present your project both accurately and interestingly that story must be planned and written with the same kind of conscious mental application that you would bestow on the planning of a real estate sub-division, or a park.

Though your secretary or publicity man probably will not write the copy which eventually appears in the newspapers, it is important for him to marshal the facts and present them in an attractive, perhaps picturesque, way to the reporters who will write the story. This requires the time of a man who either has some news experience or an instinctive news sense.

The question next arises, where shall you find such a man? I know from the point of view of some newspaper men it is rank heresy for me to suggest anything which tends to increase the ranks of publicity agents. But I look upon publicity men as being in many cases really helpful to the newspapers. When they do their work honestly, presenting their material solely on its merits and with complete frankness as to its source, they perform a distinct service both in contributing to the accuracy of news and in furnishing the papers with a larger volume than might otherwise develop of constructive rather than sensational news. This certainly may be the case among news men giving out the facts about city planning.

I am not going to hope that you will pry away very many of our best newspaper writers, because the newspaper profession needs them too badly itself, and you need their presence on the reportorial staffs of newspapers. Discernment must be exercised, but you may find some of these men perfectly capable and even better adapted to the secretarial and news contact work of your commission than he is to full time reportorial work.

I would recommend generally that your publicity man should be one of your own full time employees rather than that you should

employ a working newspaperman to handle your copy as a side line. The latter plan works fairly well sometimes, but a number of managing editors object to it, and its success depends largely on the personal equation. Much better results may be had if reporters can locate your man in your own offices whenever they want to ask a question.

Now, having spoken of your problem in getting a man who can see and present the news in city planning, let me point out a problem which the newspaper editors have in their staff organizations. City planning news must not only be given out interestingly to the newspapers, but the newspapers must have reporters who are sufficiently intelligent and sufficiently awake to the better class of news that they can write an attractive and informative story of civic appeal. A newspaper which pays $25 a week does not get many such reporters. Even editors of papers which pay two or three or more times that amount have to search continually for news writers who will give the study and thought to their work which is necessary in order to write constructive instead of sensational news.

Mr. Dickey, of the Springfield Union, says: "I have much difficulty in finding reporters who will dig into the matter of civic improvements and become so well acquainted with them that they can write the stories interestingly." Several papers, among them the Detroit News and the Los Angeles Times, tell me that they do not content themselves with only the material given out by planning officials, but send their reporters out after everything they can find on civic improvements.

It would be gratifying if a greater number of newspapers showed this attitude, and I confidently expect that more of them will. There is evidence of it already. There is also evidence of an improvement in the standard of newspaper salaries, and this improvement, I believe, holds promise for an improvement in newspaper content. Indeed, the two must go side by side, and your news on city planning will find an increasingly intelligent and favorable treatment in the hands of newspaper writers somewhat

in the ratio that newspaper salaries become sufficient to attract and hold men and women of constructive mental abilities. How well your story finally is told in the paper depends not only on how well you give it out, but also upon how intelligent and interested is the reporter whom the newspaper sends to you for the story.

In view of this, I think it is distinctly in your interests to use whatever opportunities you may find to encourage a higher standard of training and payment on the editorial side of newspaper work. One simple way you can do this is by either saying or writing a few words of commendation to the editor in charge whenever a reporter does an especially good job of handling one of your stories.

To get back to some of the questions on which the twenty-five editors have given me opinions: the second was, "Would more readers be interested (in city planning) if we could give them a better picture of just how city planning affects them, their homes and their shops?" Most of the writers answered this with a simple affirmative. They did not question that readers would be more interested, but the query in their thought evidently was and is, *How* can we give the readers a better description of the ways city planning comes home to them?

Mr. Creager links this question with another in my list when he says, "The Milwaukee Journal finds maps and sketches to have great value in bringing the effects of city planning as close home as possible."

On this point, I asked whether editors could make more use of cuts or illustrations if the planning officials would furnish them drawings in picture form rather than a blueprint form. The response was so nearly unanimous as to imply that they considered the answer obvious.

In some cases line drawings or maps in black and white can be used effectively if the drawing is kept to the simplest possible forms, using fairly heavy lines and labeling streets or waterways distinctly. For the most part, however, in order for a blueprint or a technical drawing of that type to be made into a news cut, the newspaper's own artist must make a new drawing of its salient features.

Photographs, in order to make good cuts, must be bold, sharp and clear-cut, with strong contrasts of light and dark. Much small detail, as in most air photos, is lost in passing through the engraver's half-tone screen. A single outstanding subject well in the foreground makes the best news picture. Sketches in color sometimes make disappointing cuts, for the news page has only two colors, black and white; hence anything in color must be looked at solely for its light and dark values in determining whether it will make a good cut. While extraneous detail is to be avoided in maps, it is better for building sketches to be softened with trees or other life to make them look natural. Landscape sketches should look just as real as possible.

In general I would lay the greatest possible emphasis on the use of pictures with city planning news. There is a Chinese adage frequently quoted in newspaperdom that a good picture is worth a thousand words; some editors even raise the ante to 10,000. Many more people will study a picture of this sort than will read a long description.

I would not entirely discourage the use of maps and charts, for there are many occasions when these are useful and interesting. I believe more readers are learning how to interpret maps and graphs.

While on this subject of pictures, I would say too that there is tremendous value in a vivid word picture. If you can think of some common object which illustrates how your plan would look or work, some clever simile or other figure of speech, this will help greatly in giving the average citizen a mental picture of what you propose. Whether you are giving out your city planning news personally or through a publicity representative, you may have many opportunities to crystallize your subject in this way by a clever phrase dropped in the ears of the reporters. You may be sure they are eager for good phrases.

Another suggestion in this line is: Be specific; talk to news men in concrete terms rather than generalities. Most people, as Mr. Dealey has said, are sold on city planning as a general proposition, but the question is, what kind of planning are you going to have?

For them a concrete idea such as "A playground within a quarter mile of every child" is a more effective slogan than, "Better recreational facilities for our city."

Traffic benefits from capable street layout form one of the most tangible and concrete subjects with which we can interest readers in good planning. In a question as to whether greater emphasis could profitably be laid upon traffic benefits, I find 12 answers in the affirmative to one negative.

There are still two important means of getting the attention of readers which I would commend to you: One is timeliness, the other is humor; sometimes they go together. To take up the lesser first, I would urge that you infuse just as much good nature into city planning as possible. If you can pull something funny out of the hat now and then, you are so much to the good.

The element of timeliness is naturally of still greater importance. If you can tie your story to something that is already in the public eye—if you can spring a street widening proposition the day after a disastrous fire has been made worse by traffic jams delaying the apparatus, if you can show a drawing of a new boulevard in the outskirts while the city is paying huge condemnation costs in some downtown improvement due to lack of foresight there, or if you can follow up the statement of a juvenile court judge that he has fewer delinquents to handle, with a showing that correspondingly more children are enjoying the privileges of parks and playgrounds —you will not only get more news into the papers, but you will get the facts of it more firmly imbedded in the memories of the readers.

One editor on my list complains of a lack of control in publicity about planning. Apparently in his city any successful shoe store proprietor or business college president who thinks he has a bright idea about how to unravel the traffic snarl can get himself quoted in some city papers, and numerous real estate sub-dividers make their plans more conspicuous than the work of the planning commission. This results in confusion.

If you are confronted by such a situation, I recommend first that

you make a closer acquaintance with the editors of your principal papers to enlist their cooperation and to find the phases of city planning in which they are interested. This is well worth doing anyway.

Secondly, I suggest that you try to get your data into shape so that whenever some irresponsible party turns loose a nut idea, you can promptly tell the newspapers several specific reasons why his proposition would not work and why the city should study out a plan that will work. This may involve jumping right into the ring on some debated question, but if you can keep your discussion of it on a plane that is more than mere controversy, is explanatory rather than argumentative, this may be just your opportunity to take part in public education.

Do not be afraid to be spectacular; one of the greatest interest-getting values of city and regional plans, particularly in metropolitan areas, has been the bigness and daring of their conception. This is true both of the New York metropolitan plan and the Philadelphia regional plan. Bold ideas frequently invite controversy, but controversy can be kept friendly and enlightening. Some time ago the Monitor had an interesting symposium of opinions from architects and landscape architects on a statement by one of their number that cities were becoming so big and congested that eventually it would become unendurable to live in them. This discussion brought out instructive points about the decentralization of cities. The New York Times is rather fond of giving discussions in its Sunday Magazine sections as to what the city of the future may be like.

To be sure, stories of this sort usually result from the initiative of the editor, although sometimes they can be volunteered or at least suggested by city planners. Here is another case for timeliness. Several editors I have named say their papers are eager to originate city planning stories. When a reporter from one of these papers comes to you with some question from his city editor which may not be at all the phase of planning upon which you happen to be at work that day, do you brusquely send him away or do you try

to give him some information? Frequently an editor's queries of this sort may be a useful index to you as to points upon which current popular interest can be caught. When you think it over I believe you will find it obviously worth while to cultivate and encourage any initiative on the part of local papers to dig after city planning ideas. If you can be a source of information for them, this may prove fully as useful to you in the long run as the printing of stories which you originate, and may pave the way for greater use of your own stories.

One of the possibilities which can be more fully exploited than it has been is that of appraising results of planned developments after they are completed. Comparatively few papers tell me they do this, but, as Mr. Creager, of Milwaukee, says, "the results of planning projects should be followed through." I believe one of the most effective ways of convincing people that new projects are worth the expense is to show them that old projects have borne returns.

Probably one of the most critical points upon which the city planner has to convince the citizenry is that the community can afford the proposed improvements. The ordinary taxpayer may look upon the city planner somewhat as did the boy who asserted he did not like girls because they were biased. When someone asked what he meant, he replied, "Oh, everywhere you take them it's buy us this and buy us that." City planners, no doubt, generally recognize the importance of avoiding the impression that they wish municipalities to go beyond their means. You can correct this idea most effectively, I believe, by showing what it costs a city to grow merely hit or miss and then have to build over. In other words, the question is not what it costs a city to plan its growth, but rather what it costs to fail to plan. Whenever you can bring to the attention of a newspaper a specific instance of this cost, you will be doing a service. You can also illustrate the economy of planning by citing every possible instance of advantages already realized.

Mr. Barnett, of the Tulsa Tribune, writes that his paper has made an especially effective use of "before and after" stories with

pictures, telling and showing how some replanned area looked before and after improvement. Some papers are even interested in this type of feature from outside their own city. Not many of them speak of this as news, but several consider it very acceptable feature material. The Toledo Blade uses Sunday features of this sort. Probably many other papers are open to the suggestion of Sunday or week-day features of this type if you have material for them. It is important in this connection to keep files of old photographs in order to make comparisons with the new. It is surprising how quickly all pictorial record of how a certain street looked twenty years ago can disappear, so take care of your files.

I have already told you most of the criticism made by the editors in regard to the way city planning news is given out by officials. There are one or two others, perhaps more specific. Mr. Gilmore, of Detroit, says complaint is made by property owners there that "between the time a widening project for a street is announced and the time it is completed, frontage on the street is inactive and the owner bears the burden." He adds, "The property owners' suggestion in those circumstances is that the city plan commission not announce plans until it is ready to start work at once. Under the present system there are times when a project announced today is abandoned two or three years from now, with no compensation to the property owner for the loss he has suffered through inactivity on his street."

A criticism which perhaps is more serious comes from an editor in another city who states his case thus:

"It happens that every major change involves so many real estate interests that there is fear that the city will be split into disputes, so often news is withheld until the plan is ready. Obviously this is not really sound for the reason that the plan is the concern of all the people and no few individuals should take this responsibility on themselves. Then, too, often the news of the city plan commission decisions gets around town by word of mouth before the newspapers carry it, and that does not give the public confidence in newspapers as the first reporters in every instance.

"Perhaps the most valid objection of all is that the secrecy gives a few individuals the privilege of profiting in the sections under study, to the injury often of the property owners there. There have been instances where individuals who have had a line into the city plan commission have gone into sections known to them to be under survey and have acquired choice pieces of property that have gone up substantially in value under the subsequent recommendations of the planning commission. I suppose that this evil attends such work in every city. Bankers and real estate men ordinarily are active in such commissions and their business is to guide their own investments according to their knowledge. I find, too, that city planning experts are often engaged in private capacities by holders of large properties outside the cities. Whether or not a high class professional man would be induced to locate certain of the civic structures entrusted to his judgment on the side where his private business interest lies is something that I cannot say."

This man expresses the view that except in this respect property owners in his city are fairly treated by the planning board.

On the whole the response of these twenty-five representative editors has greatly strengthened my own belief that there is an increasing opportunity for the use of informative and explanatory material about city planning in the daily press. Much yet depends upon our enlivening the manner of treatment of this news; much depends upon your forming close and friendly contacts with reporters and publishers in your cities. But the opportunity is here. It is an opportunity both for you and for the press, an opportunity for both of us better to serve the public and posterity.

To sum up a few of the recommendations I have made as to how this opportunity can be grasped, I will list these:

If practicable, obtain for a place on your staff someone of journalistic training to handle the giving out of news and information in regard to planning activities.

Whether you have such an assistant or not, study on your own account to learn to recognize what is news and what is not, and how to give out news information interestingly.

Make the utmost possible use of pictures, maps, or other illustrations with your news copy.

Take full value of the current interest in solving the problems of traffic congestion.

Deal in specific and homely terms so far as possible, instead of generalities.

With these points considered, I am sure you will find an open door for your copy in an increasing number of newspaper offices throughout the country.

PUBLICITY FOR PLANNING

GEORGE B. DEALEY, President of the Dallas Morning News and the Dallas (Evening) Journal

It may be trite but it is none the less true that city planning, like every other desirable and worthy thing, must be sold to the public. As with life insurance, it would seem that every one ought to want city planning, but the latter seems even more difficult to sell than the former.

City plans are invariably made by engineers, and quite properly so, but although the engineer is fine at planning, he is notoriously a poor publicist and often a poor salesman when it comes to acquainting people in the mass with the value and desirability of his commodity, the completed city plan.

The engineer, because he is an engineer, and on speaking terms with vistas and perspectives, can visualize his plan as an actuality. But John J. Citizen is a hard-headed person, whose vision is constricted by the necessities of rent and taxes, the costs of building and repairs, of paving and sewage, of household maintenance and the education of his children. He knows something ought to be done about traffic congestion and parkways and boulevards and playgrounds. He certainly and emphatically knows that there "ought to be a law" to prevent the erection of a filling station or a soap factory next door to his home. But he resents the doing of anything that will cost him money, or that may take away from him any of the rights and privileges he conceives to be his as a free citizen and a property owner. He needs to be shown. Showing him is not the engineer's job.

This Citizen fellow may be given one of the beautiful booklets, with its nice maps folded in and its text in large type descriptive of the city plan and its advantages. But, unless he is other than an average of his type, he will not read the brochure, or if he does he will not understand the maps, the street plans, the cross-

sections illustrating this or that improvement proposed by the engineer. He isn't exactly astigmatic, but he can't for the life of him visualize a nice, wide, paved street where now there may be a block of old buildings or a group of ancient sheds, and he simply isn't able to imagine the demolition of actually usable buildings to create an open space for a civic center.

Surely, if you ask him, this citizen is for city planning and for zoning. But he doesn't exactly know what either planning or zoning means. He is for them, but he doesn't want them to cost him anything. Of course, he wants the trunk line railways removed from streets that are needed for the use of increasing motor traffic, but he knows the railroads were there first and by the right of eminent domain and the grants of sacred rights of way, and it might not be fair to make them move. Anyway, who is going to pay the bill?

We have sold John J. Citizen of Dallas on city planning. It has been a long job and a hard one. It isn't altogether done, but we've broken down his resistance, and he is on the road to complete conviction. He has in the last fourteen years bought about $100,000,000 worth of city planning achievement, and he is highly pleased with his purchase, and is adding to his stock of this vital civic commodity as rapidly as he can find the money.

I do not think we have used propaganda, in the usual sense of that word. We *have* used publicity, and lots of it. But in Dallas we have tried to make city planning *news* instead of propaganda, or mere argument for civic betterment. A bit of history will illustrate my point.

After much preliminary organization beginning thirty-one years ago, the citizens of Dallas employed the late George E. Kessler in 1910 to make a city plan. That was news, and was given space in our newspapers like any other happening. We got the city plan in 1910. It was a comprehensive plan, and provided for the doing of such tremendous things as lifting a trunk line railroad from the heart of the city, reclaiming thousands of acres of land by leveeing a river and changing its course, for widening and opening streets,

for parks and parkways, for playgrounds, and all of the things a real city plan usually contemplates. A new union railway station was one of its projects. It took us six years to get that, and thirteen years to get the trunk line railway out of the way.

We did not depend upon the technical text of engineering descriptions in explaining the planning program. We detailed men from our staffs who were themselves interested in city planning to study and to write about the work in actuality and in prospect. We sent these men about the country to see what other cities were doing and to make news for our readers out of what they saw. We often sent them to the city hall to use their knowledge and their enthusiasm for a planned city to influence city officials. They sat in on citizens' conferences and talked city planning as well as writing about it. They still do this.

While we organized a city planning commission by charter amendment in 1919, again largely through the influence of this news publicity, we did not depend upon that commission for news about city planning. Some of its members knew even less about the subject than we did. We made our own studies and helped the plan commission to get its recommendations enacted into ordinances and later into actual accomplishment by the city government. We illustrated our news stories whenever possible, not with engineer's drawings, but with actual photographs. We used the so-called deadly parallel of "before and after" pictures.

If a street was to be widened we showed the street as it was and had one of our artists picture it as it would be. If a big building was to be torn down or cut off to permit of opening or widening a street, we showed the building with markings to indicate the portions to be cut away. We pointed with text and illustrations to new buildings that had gone up on the widened streets in areas theretofore largely valueless to the owners. We showed the improvement in traffic movement and how the city plan was gradually relieving congestion.

Finally in 1927, as the culmination of these years of effort and of progress, the people of Dallas city and county voted an aggregate

of about $35,000,000 for public improvements, every one of which was definitely related to the original Kessler city plan and the enlargements upon that plan made necessary by growth of the city in the interim. We at last had got John J. Citizen in the mood to spend his money to make for himself a real, a modern, a comfortable and a more beautiful city. In the bond program we planned for nine years ahead, creating a citizens' supervisory committee to determine priority of the projects under the general planning program.

Newspaper editors generally want to do those things which are best for their cities, and most conducive to the well being of their people. They must be sold on the certainty that planning and zoning, as proposed in their own cities, are within this category.

Take the newspaper editors and managers into your confidence at the beginning of your planning. Make them understand what is sought to be done, and that theirs is the responsibility for educating the public to the necessity of the improvements. Get them, whenever possible, to assign men to the task of writing about city planning who have some knowledge of the subject and some enthusiasm for it, or who by study and freedom from other duties may secure both knowledge and enthusiasm. No reporter and no staff specialist can do this work properly unless he has first convinced himself of the merits of the plan and its value to the community he serves.

Summing up, it is my thought that publicity for planning should be made as nearly as possible *news* of planning. As such it will have a greater effect than any propaganda of exhortation to civic progress. It will be the most potent factor in transforming the engineer's blue prints into actuality. You city planners must help the newspapers to help you. Perhaps I may suggest that you should give as much study and thought to securing for your plans the right sort of publicity as you expect the newspaper men to give to your city plan.

DISCUSSION

C. J. S. Williamson, Los Angeles, Calif.: In all our publicity we should make sure that our story is understandable to the other fellow. While we were campigning for the $6,000,000 state park bond issue in California we had the cooperation of many of the officials connected with the film interests because Mary Pickford was a member of one of the campaign committees. We had collected various pictures and prepared a short film to be run in the moving picture theaters. We thought it was very good and showed it to some of the officials of the Fox Company and asked for their comment. One of them was very much to the point, "If I went into a theater and saw that little cut I would ask myself what in hell it was all about." That is just the difference. We *knew* what it was all about, so it looked good to us.

I have no trouble in getting publicity for planning. I sent out 242 notices to papers in Los Angeles County about a meeting held just two weeks ago, and when I left last week 200 of them had run the article. It isn't hard to get the stuff in the papers but it is hard to get it so that the man who doesn't know understands your story.

Bliss Kelly, Oklahoma City, Okla.: I should never advise writing an article and turning it over to a newspaper in the expectation of seeing it reproduced in print. I have always found it best to invite a newspaper reporter to the office and sell to him the story well enough so that he knows just the purpose of it. He is more likely to give it to the public in the way the public wants it.

As to star chamber sessions, if the planning commission is going to have them they should be so secret that nobody knows anything about them, then the newspapers won't garble when they find out. It is best never to have star chamber sessions. If we have a matter that cannot be given to the public, we invite the newspaper reporters in. They hear all the discussion. We explain the whole situation to them and ask them to use their discretion as to when the material should be printed. I do not know of a single time when we have ever been embarrassed by having a confidential matter released in advance of the proper time.

Charlotte Rumbold, Cleveland, Ohio: There is one point that Mr. Nettleton mentioned that is very serious and should be emphasized. Certain details of your plans must be kept secret. When we wanted to buy the land for our civic center, we didn't dare

announce our plans until the real estate appraisal committee had finished appraising the land. The Chamber of Commerce had secured an option on the land at the appraisal figures and had sent to the authorities a formal letter to the effect that the option was held until two weeks after election and the land would be turned over at the option price if the city wanted it. When a bridge was to be built across the river in the western part of the city the business men and property owners in that neighborhood did exactly the same thing. Otherwise it would have cost the city a million dollars more than the fair price. Our problem is to keep the newspapermen satisfied that they are getting a square deal, and yet save the city's money.

Mrs. Eva Osgood, Melrose, Mass.: I am interested in a residential city of about 25,000 people. I have been coming to these conventions for about ten years and will admit that I have had a great deal of valuable information from them, but most of it has come from individuals whom I have met there. It seems to me that we should have more information in regard to small residential cities and towns rather than about the monstrosities which should have nothing now to do but decrease in size. It is most important that we find the best possible home conditions for coming generations. At the present time the average city home is nothing but a garage and filling station for human beings. We must change it if we are to reduce the delinquency and crime that are constantly on the increase in our country.

Miss Elizabeth Herlihy, Boston, Mass.: In Boston we have been engaged quietly for the last three years—we do everything very quietly in Boston—in the preparation of a comprehensive plan under the direction of Mr. Whitten. The plan is now in the printer's hands and will be ready for distribution about the first of September. It will be issued with the official sanction of the State Legislature.

At the end of this Conference, and at the end of Mr. Bassett's three years' administration as president of the Conference, I am very grateful for the opportunity of saying that in the last fifteen years that I have been engaged in city planning work there has been no greater single influence or inspiration or encouragement in that work than the president of the National Conference on City Planning.

ADDRESSES AT THE CIVIC LUNCHEON

HENRY MCALLISTER, General Counsel, Denver and Rio Grande Railroad

I am rather glad that in these census days, when the chambers of commerce are engaged in creating metropolitan districts so-called which include all of the country within the sound of the telephone or even of the radio, we can lay aside for the moment the bigger city and attend to a better city. We consider that in Denver we do have a better city. Of course, weh ave our little idiosyncrasies. For instance, our press is now in a state of unusual eruption. We have a peculiar judicial system in Colorado and especially in Denver, which you would understand a little better if you lived here. In addition to the ordinary judicial processes we have trials by the press. The newspaper calls the grand jury, charges it and takes direction of the District Attorney and the jury, supervises the verdict, and praises or denounces the jurors according to the tenor of that verdict. And the matter has extended to such a point that in cases where the particular action of any individual juror may have been questioned in public, the entire jury panel signs a statement showing exactly how each vote was cast upon every ballot.

I would not be fulfilling the duty of a Denver citizen upon an occasion devoted to our guests interested in city planning without paying a tribute to the memory of one who perhaps more than any man, certainly in this section of the country, was responsible for the city planning of Denver. Many years ago a Democrat emerged from his position in Denver to become mayor of the city. We Republicans considered him as anathema, as the lowest form of animal life. That man did start as a practical politician, but he developed into one of the most wonderful combinations that was ever known in municipal life. A practical politician he continued, but he became a dreaming idealist. He planned, he built, and these boulevards, parks and mountain parks which you will see are

largely the work of his planning or construction. We built a city charter around that man, and after he had been thrown out of office we put him in again by a practically unanimous vote. And the saddest thing that ever happened to city planning in Denver, yes, I might almost say to city planning throughout this country, was the death of Robert W. Speer.

Walter B. Weisenburger, Executive President, St. Louis Chamber of Commerce, St. Louis, Missouri

In the swift flow of American life today city planning has became a science, the benefits of which are not all going to posterity. Even in this generation the planners may see the fruition of their efforts. Although this offers a great stimulus to the planners, yet it so happens that the very speed at which we travel is overcoming some of the best citizen influences that are needed for the realization of the plan. How to maintain citizenship interest in order to get the full fruition of plans is the problem, because, as the Irishman says, "These are days in which you have to run like hell to stay where you are." With every morning sun we seem to see some new condition, some new skyline, some new practice. We are travelling under the motto, "Tomorrow must be different."

The truth of the matter is that in the United States we are sacrificing a good deal of civic progress to golf. It is a situation comparable to the days when the Caracalla Baths sapped the vitality and interest of the citizens of Rome. If we get to the point where the rise and fall of the American Republic is wrecked, you can check some of it up to golf. Nero fiddling while Rome burned has nothing on the fiddling around of American business men while the burning questions of the day remain unsolved.

The temperature of some of our leading citizens is getting decidedly low. They are willing to delegate their citizenship interest to some third assistant clerk while they go off golfing, galloping or gaming, and you can't build American cities in that fashion. We seem to be reducing most of our civic enthusiasm to concentrated tabloid form and hiring inexperienced persons to lead civic reforms.

May I speak frankly, but I hope not too critically, about two or three outstanding problems that seem to me to warrant the attention of our leading citizens. First of all, I believe that prosperity is somewhat of a drawback to civic advancement. The richer and the older some of our citizens get, the less interested they are in civic affairs. They may give a little more money, but they give less of themselves. I am of the opinion that we may as well leave out of our plans some of these moss-back citizens who are tatooed with their beliefs like South Sea Islanders and get down to a younger generation who can get the vision of the future. Trying to change some of the old boys is about as useless as taking of prohibition poll in St. Louis and Cincinnati.

Civic devotion is becoming less localized. We have in St. Louis what you might call Texas League citizens. They have their business in the city, they sleep in the country and they don't owe allegiance to either place.

Individual ownership, both of retail business and industries, is rapidly passing. We are getting detached ownership and therefore detached interest, and from detached interest one never gets the same fervor of civic enthusiasm as from the man who is raised in the community and wants to see it go ahead. However, these chain store organizations and large industrial units have, in the last two years, begun to realize that they must take some active part in the community life.

St. Louis may well be used as an example of an attempt "to put people into city planning." Back in 1905 we had a city plan association. In 1911 we passed an ordinance creating officially a plan commission. In 1915 we had the rarest good fortune of bringing Harland Bartholomew to our city. In 1917 the major street plan was formulated. At that time we felt that if half that major street plan were completed within forty or fifty years we would be doing well. As a matter of fact, 85% of it has already been initiated. In 1920 the Chamber of Commerce organized the Municipal Development Bureau, and during the two years of its active service all the major street plans were initiated. Out of

its activity came the municipal bond issue of 87 millions with which I am sure all of you are familiar. After that bond issue we spent our time patting ourselves on the back and enjoying a period of lethargy. Until about a year ago there was no civic bureau to promote the plans of the commission.

More recently we have given much thought to the subject of condemnation. We were told about nine months ago that when the Market Street widening finally got out of the courts there would not be money enough left to do the job. By close cooperation with the judges we got all the condemnation hearings before one court and they will be completed this coming December. Then we took up the question of money, and found we had only a revolving fund of 2½ millions and as usual practically the entire amount was tied up from six to ten years in one project. We had $20,000,000 worth of improvements within the city limits and no money with which to do them. We realized that benefit judgments which had been finally upheld by the courts were just as good as tax bills and should have a sale in any stable financial market. After some months' work we have completed a plan in the form of an ordinance whereby the bankers of the City of St. Louis will buy these benefit judgments and release for work in the next five years $20,000,000. That is an example of how a chamber of commerce working through its citizens can be of assistance to the planning commission.

We organized a council on civic needs which has in its membership two representatives from every civic body in the community. They meet at least once a month and discuss the factors that make for community progress. This scheme of organization is working well because the larger a community gets, the more regional and sectional it becomes and the more understanding there must be between these sections.

We have a river front improvement which will cost $57,000,000. This is a big amount to raise in any community, no matter what its size, and in St. Louis without excess condemnation we do not stand to get that amount. So there is being submitted to the Council a

constitutional amendment providing for excess condemnation. We expect to realize 17 or 18 millions from the sale of land not needed for the improvement.

We need to inculcate in our citizens a greater belief that adequate planning for their community's future is not just altruism or blue sky. The hard-headed business man looks at most improvements through the magnifying glass of the tax rate. He should be taught to believe that the only answer to the tax problem, with the growing needs of American communities, is city planning and the improvement of values so that the tax revenue grows commensurately with the needs of the community. We must teach our citizens the symphony of this new modern life so that they will get in tune with the times and, like the spider out of its inwards, will build out of their very desires for their community the fairy citadel of their dreams.

George W. Morgan, President, St. Paul Association of Commerce, St. Paul, Minnesota

Since we will all agree upon the desirability of a city plan for every community, I think it may be of more interest if I devote my brief talk rather to the necessity of making city planning a community enterprise supported by an intelligent and informed public opinion. The principle of city planning, while accepted in theory by many communities, is often not put into practice. In order that city planning may make headway in any community it must "take" and the only way it can "take" is by reaching the great masses of the people and making them conscious of its possibilities.

I do not mean that the city plan, either in its details or its general aspect, must or can originate from the population at large or be formulated in the first instance by public opinion.

But, granting this, it still remains a fact that, as Mr. Nolen said at one of your recent meetings, to quote his exact words:

"The city planner is loath to try to sell his own wares and there is nobody who will sell them for him. If he is a successful professional man, he does not have to do it. And yet city planning ought

to be sold to more and more communities. It lacks a selling organization."

The only way in which I can preach upon my text, the necessity of making city planning a community enterprise supported by an intelligent public, is from our own experience in St. Paul.

City planning may be said to have begun in St. Paul when Cass Gilbert, then living there, as the architect of our State Capitol Building, prepared sketches for Capitol approaches which later were detailed and elaborated and became the first plan, only partial it is true, for beautifying and developing the city. The dominant purpose quite naturally was to make the most of the architectural beauty of the Capitol but the approaches were studied with reference to other phases of the city's development.

In 1911 a civic organization known as "The City Club of St. Paul," presented a plan of the central retail district of the city as prepared by John Nolen and Arthur C. Comey, which adopted in part the Cass Gilbert plans for a Capitol approach and provided for various needed street widenings in the retail district.

In 1914 the City Council passed an ordinance creating a planning board, but so little authority was given it that citizens refused to serve, and matters marked time until 1918. That year the passage of a new ordinance was secured through the organization of the so-called "Greater St. Paul Committee," to which nineteen civic organizations sent delegates and which secured in the new ordinance the change of the word "may" to "shall," the intention being that it should be mandatory upon the City Council to refer matters relating to city planning to the City Planning Board. It is significant to note that this, the first important step in the organization of the city planning movement, was made possible through the influence of federated civic organizations.

After two and one-half years' work by planners and engineers, a comprehensive plan of St. Paul was adopted by the City Planning Board and published in 1923. This plan of St. Paul, attractively printed, was circulated quite widely among the various civic bodies

and luncheon groups and mailed to lists of representative citizens and in this way a foundation was laid for later educational work.

The Board, late in 1925 and in 1926, circulated information relative to the Buffalo City Planning Association which had been referred to by Mr. Nolen as "the most inspiring illustration of what a citizens' committee can do" in the way of presenting city planning to the public.

While the publication of the city plan in 1923 created a mild public interest, there was no realization outside of a small group of the vital importance of the plan in its entirety or of such parts of it as those dealing with the opening up of new traffic routes and the street widening program. Practically ignoring the city plan, the City Council offered a number of bond issues to the people in 1927. These issues were all defeated, in spite of a general realization among those who were informed as to the city's needs that they were in the main meritorious. Many of those who realized the merit of the several proposals opposed them upon the ground that they were not based upon a comprehensive study of the city's needs.

During the ten years since its organization, from 1918 up to 1928, the City Planning Board had made many studies and submitted many single projects to the Council with a method of financing, which had either been politely filed away and forgotten or, if acted upon, had been so changed, if not distorted, that they bore little if any resemblance to the proposals favored by the Board. The City Council had naturally enough not given the consideration to the Board's suggestions that it would have given had there been a strong and united public opinion behind them.

Many individuals and organizations which in 1927 urged the defeat of these proposals to which I referred promised that they would initiate an investigation, and propose a comprehensive program for public improvements for a period of years. Immediately after the election, with the cooperation of the Planning Board, there was organized what came to be known as the United Improvement Council, composed of representatives of some 25 or more organiza-

tions, including in addition to representatives of official bodies like the City Council, representatives from civic organizations, in addition to the Planning Board, such as the St. Paul Association of Commerce, the Bureau of Municipal Research, the Federation of Women's Clubs, the Real Estate Board, the Trades and Labor Assembly, the St. Paul Chapter of the American Institute of Architects, etc.

This federated group, through the various organizations, represented a cross-section of the community. It was able to command an overwhelming backing of public opinion. It made an extensive study of the city's needs and formulated a definite program of public improvements covering a five-year period which it submitted to the Council as promised, after some months of work, in August, 1928. Without going into detailed description of the program, it may be said that the chief subjects covered were four in number: schools, parks and playgrounds, highways, and public buildings, although investigation and recommendations were made regarding many other important things such as the public market, sewage disposal, the municipal airport, and the municipal barge terminal.

It would by no means be claimed by the City Planning Board that all of the details of the work of the United Improvement Council were derived from the Plan of St. Paul or its later work. Nevertheless the work done by the City Planning Board in its eight years of educational program undoubtedly paved the way for, and made possible, the success of the Council, and the Council's program was in its major aspects, such as highways, street widening and location of public buildings, with but one or two exceptions, either derived from or submitted to and passed upon by the Board.

In the fall of 1928, three months after the submission of the Improvement Council's report to the City Council, bond issues were submitted to the people for the projects covered by the report, and the complete program was carried by an overwhelming vote. It is the only instance on record in St. Paul where a proposition submitted at the polls carried in every ward and every precinct. The total bond authorization was $15,577,000, to cover a five-year

period of improvement; and on May 1, 1930, practically one year and a half later, there had been actually expended approximately three and a half million dollars of that amount and a number of the major projects were already under way.

For many years, and especially since the splendid plan of the Board formulated in 1923, there had been discussion of the widening and general improvement of Third Street, a marginal street along the river front in the business section which in the early days was the chief business street of St. Paul but which had in later years fallen into decay. The widening and general improvement of this marginal street into a broad mall or boulevard, including the removal of the buildings on the river side, is now in progress and to a large extent completed.

For years the inadequacy of our city and county building has been admitted. Now plans are actually being prepared for a new four million dollar courthouse and city hall upon the widened Third Street, and the noted architects, Holabird & Root of Chicago collaborating with Ellerbe of St. Paul, will undoubtedly produce a building of the greatest distinction.

St. Paul has had what has been in the past an excellent municipal auditorium containing a fine orchestra hall but it has latterly been inadequate for the larger conventions and exhibitions. Plans are now being drawn for an addition to this municipal auditorium which will nearly treble its size and construction will begin next autumn.

In addition there are either finished or in progress the parks and playground program, the filling in of ground and the building of hangars at the Municipal Airport, the widening of other streets and the building of other necessary municipal buildings.

Already in St. Paul we are experiencing the quite surprising and successful effect of the development of the marginal thoroughfare along the river, which I have already mentioned, both in the æsthetic effect obtained by opening up a most attractive view, and in relieving the narrower streets of the business district from some of their traffic burden. While it is too early to secure any data as to

the effect on property values, it is the consensus of real estate men that values have already materially increased. Even those who opposed the project as impracticable and visionary are frequently heard to approve it now that they actually see the results.

There can be no question but what the new atmosphere created by the approval and undertaking of these projects has greatly stimulated private enterprise. In spite of the slackening of business generally in the United States, in the year and a half since the adoption of the United Improvement Program there have been planned and erected, or now are in the course of erection a very considerable number of buildings in the downtown district. We have a total private building program in the two years of 1930–1931 far in excess of $20,000,000, much of which has been hastened, if it was not actually caused by the stimulus given to city development by the Public Improvement Program.

In turn these city improvements have already stimulated the interest of the State, which has been latent all these years in spite of city efforts to arouse it, in the development of the Capitol approaches. The Capitol Grounds Commission has already indicated its renewed interest, and we hope that at the next session of the Legislature action will be taken in a substantial way toward the realization of Cass Gilbert's plan.

It is obvious to everyone who lives in the city that there is a quickened interest through this community action in the general subject of city planning. Such an awakened public opinion is going to strengthen the hands of the City Planning Board, give it added prestige, and make easier the dealing with future problems such as the question of metropolitan sewage disposal with which the two cities of St. Paul and Minneapolis are now confronted.

I have narrated our experience in St. Paul perhaps in too great detail for the purpose of showing how difficult it has been in a city with a very conservative population but otherwise in most respects I suppose typical, to make any progress in carrying forward a city plan, however intelligently evolved, until some contact is established between the planning body and the citizenship at large.

Every community has at hand in its various civic organizations the machinery for creating just such a representative body as was created in St. Paul in our so-called United Improvement Council. There doubtless are other ways of making the necessary contact, as, for example, by the organization of an association for the special purpose of promoting the work of the official planning board but where means exist ready to hand it is much better to use them than to create new machinery. The various existing organizations then feel that the city planning program is their program and their members spread the gospel with a zeal that would otherwise be difficult to inspire. Those of us in St. Paul who are vitally interested in the promotion of the city plan hope that our United Improvement Council, created for the special purpose of securing the passage of this five-year program, will, as occasion arises, again be called into action as a body to consult with and support the official City Planning Board.

When this Conference honors St. Paul with a visit, as we trust it will in the not distant future, we believe that we will be able to show you some real accomplishment in the development of a City Plan.

RESOLUTIONS OF THE CONFERENCE

Appreciation

Resolved, by the Twenty-second National Conference on City Planning that it express to our president, Edward M. Bassett, our gratitude and appreciation for the genial firmness and punctuality that have typified our sessions under his guidance and that we especially appreciate the many personal contributions that he has made to our programs.

Appreciation

The Twenty-second National Conference on City Planning is about to bring to a close one of the most profitable and enjoyable sessions in its history, at Denver, Colorado, and

We are fully aware of the effort, expense and sincerity of purpose on the part of our host City to make our Conference the delight that it has been, therefore

Resolved, That the National Conference on City Planning express to our delightful host City our sincere appreciation for all of the courtesies that have been extended to us, and especially to the Hon. Benjamin F. Stapleton and his staff; the Honorable City Council; the City Planning Commission; the special official and civic committees; the Denver Art Museum; the local Chapter of the Garden Club of America and the many individual citizens who have contributed so substantially to the success of the Conference, and especially do we also thank the public press for their generous assistance in conveying the activities of the Conference to the citizens of the city.

Preservation of Large Areas

We are learning anew from Denver the great value to our people of setting aside large areas of public domain for recreational pur-

poses, and particularly those possessing unique advantages of scenery, climate or scientific interest, and

There comes to our attention the fact that in the Superior National Forest in Minnesota and the Quetico Provincial Park of Ontario, Canada, there is an area possessing all of these qualities, and

We learn that these public lands are threatened with private exploitation and expoilation, therefore

Resolved, That the National Conference on City Planning commend to the Congress of the United States, the Federal Power Commission and other involved Federal departments the policy of preserving said areas in their present condition pending such time as thorough study by proper Federal agencies shall reveal what portion, if any, of these areas shall be pereptually preserved.

State Legislation

There will soon be held in Salt Lake City a conference of State Governors, and

The Federal Census of 1930 has served to emphasize the increasing majority of our national population that reside in urban districts, and

The purpose of city planning is the preservation and advance of the amenities of city life, and

The cities of the nation are but creatures of the states and as such must depend upon the states for all powers essential to carrying on any adequate program of city planning, therefore

Resolved, That the Twenty-second National Conference on City Planning, at its meeting in Denver, commend to the honorable assembly of state executors in Salt Lake City the matter of adequate and constructuve state enabling legislation on the subject of city planning similar to that developed by the U. S. Department of Commerce, and be it further

Resolved, That the National Conference extend to the governors of the states of the nation every assistance in these matters that we are capable of rendering, and be it

Finally Resolved, That a copy of this resolution be properly

engrossed and forwarded to said conference of governors in Salt Lake City.

George Washington Bicentennial Anniversary

The Congress of the United States has created a Commission to arrange a fitting nation-wide observance of the Two Hundredth Anniversary of the Birth of George Washington in 1932, and

The Commission so created, composed of the President of the United States, the Vice-President of the United States, the Speaker of the House of Representatives, four members of the United States Senate, four members of the House of Representatives, and eight citizens appointed by the President of the United States, is charged with the duty of planning and directing the celebration, and

The high purpose of the event is to commemorate the life, character and achievements of the most illustrious citizen of our Republic and to give every man, woman and child living under the Stars and Stripes an opportunity to take part in the celebration which will be outstanding in the world's history, and

The George Washington Bicentennial Commission, desiring the full cooperation of the people in the United States, has extended a most cordial and urgent invitation to our organization to recognize this celebration, therefore be it

Resolved, That the National Conference on City Planning does hereby endorse the program of observance of the Two Hundredth Anniversary of the Birth of George Washington, to take place in 1932; accepts with appreciation the invitation of the George Washington Bicentennial Commission, and pledges this organization to extend earnest cooperation to the United States Commission so that future generations of American citizens may be inspired to live according to the example and precepts of Washington's exalted life and character, and thus perpetuate the American Republic, and be it further

Resolved, That this resolution be incorporated in the official proceedings of this meeting and that a copy thereof be transmitted to the George Washington Bicentennial Commission, Washington, D. C.

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